Science Library
TN
860
.W93

NEW YORK • # WORLD PETROLEUM • LONDON

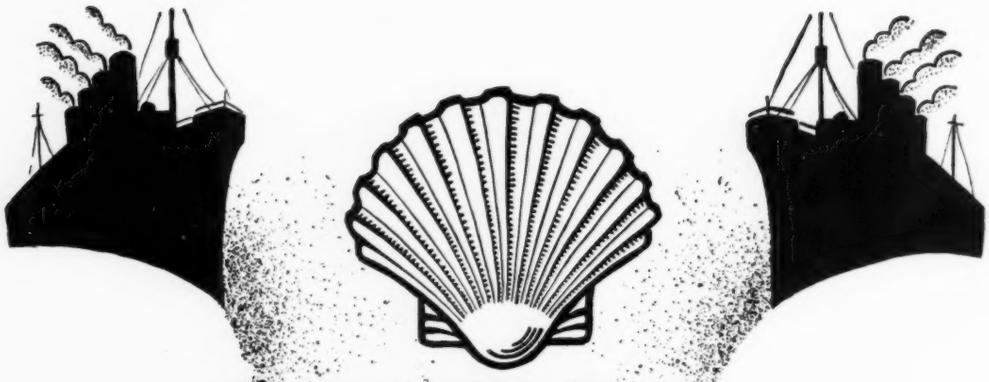
GS

The New Germany Stimulates Motoring • Recent Developments in Venezuela • Extracts from the Diary of a New Oil Man • Crude Oil Production for the World in 1933 • The Year in United States Refining • Economies Possible with Electric Drilling

Courtesy Dr. Paul Wolff

FEBRUARY • 1934

FIFTY CENTS OR TWO SHILLINGS THE COPY



# SHELL

## WORLD WIDE
## OIL FUEL
## SERVICE

*Aberdeen
*Adelaide
Aden
*Alexandria
*Amsterdam
*Antofagasta
*Antwerp
Ardrossan
Aruba
*Auckland (N. Z.)
*Avonmouth
*Balboa (Panama Canal)
*Balik Pappan
*Baltimore
*Bangkok
*Barton (Manchester Ship Canal)
*Batavia
*Bergen
Boelebaai Ceram
*Bombay
*Bordeaux
*Brisbane
*Buenos Ayres
Bumpyo (Korea)
*Calcutta
*Cape Town
*Casablanca
*Cebu
*Colombo
*Colon (Panama Canal)
*Constantza
*Copenhagen
*Curacao
*Dakar
*Dover
*Durban
*Fall River
*Falmouth
Fredericia
*Fremantle
Galveston
*Genoa
*Gibraltar
*Glasgow
*Gothenburg
*Hamburg
Hankow
*Havana
*Havre
*Hong-Kong
*Honolulu
Houston (Texas)
*Hull
Ichang
Jacksonville (Florida)
*Jarrow-on-Tyne
*Karachi
*Kingston (Jamaica)
*Kobe
Kyle of Lochalsh
*Las Palmas
*Leghorn
*Lisbon
*Liverpool
*London (Shell Haven & Thames Haven)
*Macassar
*Madras
*Malmo
*Malta
*Manila
Maracaibo (Venezuela)
*Marseilles
*Melbourne
Minatitlan
Miri
*Mombasa
*Montevideo
*Montreal
Nagasaki
*Naples
*New Orleans
*New York
Nonai
*Oslo (Soon)
*Palembang
*Palermo
Pangkalan Berandan
*Penang
Perim
Pernambuco
*Philadelphia
*Piraeus
Portishead
*Portland (Oregon)
*Port Said
Port Sudan
Quebec
*Rio de Janeiro
*Rotterdam
*Rouen
Sabang
*Saigon
*St. Nazaire
*St. Vincent
Saitozaki
*San Francisco
*San Juan (Porto Rico)
*San Pedro (Los Angeles Harbour)
Santos
*Seattle (Washington)
*Shanghai
Shimonoseki (Hikoshima)
*Singapore (P. Bukom)
" (P. Samboe)
" (Tandjong Pagar)
*Sourabaya
*Southampton
*Stanlow
*Stockholm
*Suez
Svolvaer
*Sydney
Tampa (Florida)
*Tampico
Tarakan
*Trieste
*Trinidad
Tunis
Tuxpam
Vado
*Valparaiso
*Vancouver
*Venice
Vera Cruz
*Wellington (N. Z.)
*Yokohama

*Lubricating Oils for Marine Purposes are also available at these Stations.

## FOR MOTOR SHIPS
## STEAMERS' BUNKERS
AND
## INDUSTRIAL PURPOSES

THE ASIATIC PETROLEUM CO. LTD., ST. HELEN'S COURT, GT. ST. HELEN'S
– LONDON E.C.3 –

# FEBRUARY
## 1934

# WORLD PETROLEUM

VOLUME V — **Editor, E. W. Mayo** — NUMBER 2


# CONTENTS


Frontispiece ..... 38
Editorial ..... 39
Production ..... 55
Shipping ..... 70
Finance ..... 72


## Special Articles


The New Germany Stimulates Motoring ... Russell Palmer 41
Moffett Joins Standard of California ..... 46
Diary of a New Oil Man on Inspection Trip ..... 47
Active Development in Eastern Venezuela N. O. Fanning 52
World Crude Oil Production for 1933 ..... 55
Refining Reflects Year's Fluctuations ..... 57
Improvements in Use of Electricity for Drilling ..... 58
Great Britain Sets New High Import Record ..... 69



**Published Monthly by**

**RUSSELL PALMER**

**153 Waverly Place, New York, U. S. A.**

Cable Address, Ruspam, New York and London

**Advertising Manager, S. J. Gallay**

**Executive-Editor, T. Orchard Lisle**

▼

CALIFORNIA OFFICE: Bendix Bldg., Los Angeles.

**London: 3 Savoy Place, Victoria Embankment, W. C. 2**


## Subscriptions

ANNUAL subscription to WORLD PETROLEUM is offered at the flat rate of five dollars (U. S.) postpaid to any country in the International Postal Union, except in Canada where a special tax compels the publisher to charge $5.60.

For the convenience of subscribers the publisher will accept payment in any of the following currencies at the fixed rate shown below:

| | |
|---|---|
| Argentina | 15 paper dollars |
| Canada | 5.60 dollars |
| Colombia | 7.25 peso |
| France | 85 francs |
| Germany | 14 Reichsmark |
| Great Britain | 1 guinea |
| Holland | 8 guilders |
| India | 13 rupees |
| Iraq | 1 guinea |
| Italy | 60 lire |
| Japan | 16 yen |
| Mexico | 18 peso |
| Persia | 1 guinea |
| Peru | 23 sol |
| Poland | 27 zloty |
| Roumania | 5 lei |
| Russia | 1 chervonets |
| Venezuela | 20 Bolivar |

Remittances or drafts to the order of the Publisher, WORLD PETROLEUM, payable in New York and London.

Subscriber's name and address should be in Roman capitals on the subscription order.

Official position of subscriber is requested.

Advance notice, if possible, of a change of subscriber's address should be given.

▼

## Agencies

SINGLE copies of WORLD PETROLEUM are obtainable every month, within the delay imposed by the international mail service, at any of the following agencies:

CABIMAS, VENEZUELA—The German Store
CARACAS, VENEZUELA—Casa Letcher, Torres a Madrices 22
MARACAIBO, VENEZUELA—High Life Tailors
THE HAGUE—Martinus Nijhoff, Lange Voorhout 9
LONDON—World Petroleum, 3 Savoy Pl., Victoria Embankment, W. C. 2, 110 Fenchurch Street, E. C. 3
W. H. Smith & Sons, Ltd., Moorgate Met. Station
Willing & Co., Ltd., Moorgate Met. Station
Barker & Howard
NEW YORK—Telephone CHelsea 2-7398 for list of 20 newsstands carrying copies
PARIS—Librairie Brentano, 37 Avenue de l'Opéra
KOLN-LINDENTHAL, GERMANY—1 Laudahnstr: Director, A. J. Chambers
PORT OF SPAIN, TRINIDAD—Davidson & Todd, Ltd., 8 Frederick St.
LOS ANGELES—Bendix Bldg.

The price of a single copy is 55 cents in Canada, 2 shillings in other countries of the British Commonwealth and the equivalent of 50 cents (U. S.) elsewhere.

▼

## Particular Notices


CONTENTS of WORLD PETROLEUM are copyrighted by Russell Palmer, and contents may not be reproduced without permission.


Manuscripts and photographs submitted to the Editor are received only at the owner's risk. Prompt consideration will be given to them.

The Publisher does not necessarily endorse the views expressed by authors of signed articles. In the service of readers he will not hesitate to give publication to signed opinions in direct opposition to his own.

Advertising rates obtainable on request.

WORLD PETROLEUM heartily supports the NRA and observes its requirements. We do not display the emblem because we are not in sympathy with the attempt to enforce its use by boycott.

## Standard Oil Company (New Jersey)
## Board Meeting

MEETING of the board of directors (domestic) of the Standard Oil Company (N.J.) in the new board room at 30 Rockefeller Plaza, New York. From left to right around the table: A. C. Minton, secretary, R. W. Gallagher, Christy Payne, F. H. Bedford Jr., E. J. Sadler, R. G. Stewart, and C. O. Swain, directors; president Walter C. Teagle, W. S. Farrish, chairman of the board, and director Orville Harden. Foreign directors, Peter Hurll and H. G. Siedel of London, J. Mowinckel, Paris, and G. H. Smith, Toronto, are not present.

NEW YORK • # WORLD PETROLEUM • LONDON

**World Conditions**

WORLD PRODUCTION of oil in 1933 increased nine percent over that for the year preceding. At the same time there was an improvement in consumption in the principal markets. While this has been somewhat less than the growth in output it is sufficient so that the expansion in stocks has been only moderate. Stocks are above actual requirements in certain parts of the world, but they are not so unwieldy as to provide a serious threat to the maintenance of reasonably stable market conditions.

As the drop in production during 1932 compared with the year previous was due entirely to curtailment of output in the United States so this country was mainly responsible for last year's gain over 1932. The United States in fact accounted for 111,000,000 bbl. out of a total world increase of 117,000,000 bbl. The larger American outturn was due almost entirely to the speeding up of production during the four months from May to August inclusive. This was the period when the petroleum code was in process of formulation under the National Recovery Act and when producers were convinced that higher prices and restriction of output were due to follow.

Outside the United States production has followed a very stable course. Substantial increases occurred in Peru, Venezuela and Mexico while reductions took place in Colombia, Netherland India and Trinidad. Russia and Roumania showed only inconsequential changes in 1933 output as compared with 1932. A large amount of exploration was carried on in different parts of the world but drilling operations were held to a minimum except in the Soviet Union and the United States.

Important changes took place in the oil industry in 1933 including the application of governmental control both to producing and marketing activities in the United States. As an outgrowth of the general nationalistic movement that has spread throughout the world, proposals for the nationalization of petroleum and the establishment of government monopolies were advanced in several countries including France, Sweden, Japan, Argentina, Uruguay and Mexico. It is noteworthy, however, that in none of these countries have such proposals been enacted into law. Wherever careful analysis has been made of monopoly projects the disadvantages involved both to the state and the public have been found greatly to outweigh the specious attractions of the scheme as presented by its proponents.

Market conditions generally have shown improvement during the past year. Heavy losses incurred by many large companies during the earlier months of the year were replaced by satisfactory earnings during the third and fourth quarters. The industry has entered 1934 with a greatly improved outlook both as to volume and earnings. The year promises to be a period of stable operations and of activity concentrated upon the improvement of methods rather than the expansion of output.

▼

**U. S. Marketing Agreement**

APPROVAL by Secretary Ickes of the marketing agreement submitted by the refiners of the United States completes the machinery of regulation contemplated at the inception of the movement for self-regulation under federal control some seven months ago. While the authorization of the agreement is accompanied by a statement from the Oil Administrator that it may be modified or canceled if it does not operate satisfactorily the presumption is that it will be permitted to remain in force unless abuses develop or complaints become numerous. The fact that changes have been made in the original agreement which endeavor to meet the chief objections urged against it indicates that it is expected to be the governing instrument of the marketing branch of the industry for some time to come.

The Administrator's warning against unwarranted increases in the price of motor fuel, while justified as a reassurance to consumers, probably is unnecessary as far as the oil industry itself is concerned. Nobody familiar with the kind and extent of competition prevailing in the sale of petroleum products can easily envisage a situation in which these competitors would band together to extort unreasonable prices from the motoring public. In fact any such move would promptly defeat itself because of the consumer resistance it would meet. Success of the whole stabilization plan depends upon the constant and steady absorption of current crude and refined output to prevent the accumulation of excessive stocks.

▼

**Crux of Control**

AS WE HAVE pointed out, possibly with tiresome reiteration, the crux of the entire scheme of planned control for petroleum is in the limitation of crude output to the level of current market demand or, when necessary, sufficiently below it to permit the reduction of overexpanded stocks. That the oil administration as yet has not been able to accomplish this

may be seen by a glance at the weekly production figures. From September last to the end of the year production in the United States exceeded the allowables in effect during this period by over 5,000,000 bbl., taking account only of the output officially reported. In addition there was produced illegally, in contravention of state and federal proration orders, a quantity that cannot be estimated exactly but that probably was not less than 1,000,000 bbl.

Of the three principal producing states Oklahoma has come nearest to keeping its output within the authorized limitation, having overrun its allowable by less than 500,000 bbl. Texas has been the worst offender, particularly in the matter of "hot" oil, its excess, including the latter, probably reaching close to 3,000,000 bbl. California also has exceeded its allowable almost continuously and accumulated an excess of 1,750,000 bbl. or more.

There have been many reasons to account for the failure to hold production within the limits set for it. Among these may be included the inadequacy of state statutes governing proration, the fact that state and federal orders have been constantly under legal attack and the lack of an enforcement organization large enough to keep watch over all the different fields. From reports recently received it appears that the running of "hot" oil in East Texas, where it has been particularly rampant, has been greatly reduced, possibly to a figure as low as 25,000 bbl. daily. While this is a small percentage of the total daily output of the country compared to hot oil production in the past it still represents a sizable leak in the proration dyke.

If the legality of the orders issued by the federal oil administration is upheld in court decisions now pending it is to be expected that a new and more vigorous enforcement drive will be undertaken, now that the task of setting up regulatory machinery has been virtually concluded with the acceptance of the marketing agreement. If production can be kept down to authorized limits and "hot" oil eliminated there seems to be no good reason why the oil industry cannot operate successfully under the code during 1934. At least the regulatory plan will be assured of a fair test.

▼

**Purchasing Plan**

THE PARTICULAR phase of the general plan embraced in the marketing agreement which will be watched with greatest interest in the petroleum trade is its efficiency in keeping distress stocks of gasoline off the market, through pooled purchases. The Oil Administrator has announced that there will be close and continuous governmental supervision of the operations of the purchasing agency to make sure that there shall be no discrimination against independent refiners and that a competitive market, safeguarding the normal flow of gasoline, will continue to exist.

More than this is necessary however. Unless crude production and runs to stills can be kept within the limits prescribed by the oil administration itself, and unless the running of hot oil is vigorously suppressed, the result will be that the more so-called distressed supplies are purchased the more there will be for sale.

▼

**International Agreements**

WHILE international marketing arrangements by agreement among groups of competing interests seldom have been wholly successful there is one form of cooperation that has worked exceedingly well. That is the undertaking among strong companies to respect one another's position in a particular market. Such understandings have kept the peace in the Indian market except for occasional short interruptions for a number of years. Where two companies possess facilities that complement each other a more enduring form of cooperation is possible through the union of these facilities.

A noteworthy recent example of this was the action of Standard Oil Company (New Jersey) and Socony-Vacuum in combining their operations in the Far East in the Standard-Vacuum Corporation. The well integrated organization represented by this combination of producing and marketing facilities undoubtedly will prove a strong factor supporting stable conditions in the important markets which it serves. It would not be surprising if the successful operation of this company were to result in the adoption of similar arrangements between these two leaders in other portions of the international field.

▼

**Enlightened Oil Policy**

NOWHERE else, it is safe to say, is a better example to be found of the good results following an enlightened oil policy than is afforded by Venezuela. While insisting upon efficient and economic development of its oil fields with special emphasis upon the maintenance of good working conditions the government has provided reasonable laws for the regulation of the industry and preserves a fair attitude toward the companies operating in Venezuela.

This policy is an expression of the statesmanlike views of General Juan Vicente Gomez whose twenty-fifth anniversary as President of the Republic was celebrated in December last. Under his administration Venezuela has attained the unique distinction of being a nation without a debt. By the simple expedient of adjusting governmental costs to declining revenues Venezuela has avoided the unpleasant phases of the industrial depression which has caused such acute trouble in many other countries.

By virtue of his office President Gomez is the active head of the petroleum industry in Venezuela and his leadership has been a chief factor in the remarkable growth of the industry as well as a sound example to other oil producing nations of the world. Under the general direction of the President oil affairs are administered by the Minister of the Interior, Dr. Pedro Tinoco, and the Minister of Fomento, Dr. R. Cayama Martinez. Many of the government oil inspectors have received technical training in American oil and mining schools before entering upon their duties.

The just and liberal attitude of the government has been reflected in the course of the oil companies operating in Venezuela. Despite unfavorable conditions in the international market during the past few years they have continued the development of the industry and have spent large sums in modernizing all branches of their operations. It is estimated that $5,000,000 has been expended in geophysical work alone in eastern Venezuela during the past five years, largely by Standard Oil of Venezuela, Venezuela Gulf and Venezuela Petroleum Company. Results of this work are now beginning to show in the way of new development in this district.

Without outside influence or agreement Venezuela has practiced a wise policy of oil conservation. It has not been drawn into the scramble for increased production although there is little doubt that within a relatively short time it would be possible to increase daily crude output to 1,000,000 bbl. as compared with actual production of about 350,000 bbl.

Most of the important oil companies operating in Venezuela have large undeveloped resources in other countries. When the need for increased production comes there is little doubt, however, that they will prefer to develop their reserves in Venezuela because of the fair and favorable treatment accorded them under the policy fostered by President Gomez.

# The New Germany Stimulates Motoring

*Revolutionary Policy Abolishes Tax on New Passenger Vehicles. Automobile Production Increases and Work Begins on a Great New Automobile Express Highway System.* *By Russell Palmer*

© Keystone

*Der Führer breaking ground for the new national highway system.*

AT A TIME when governments the world over are trying to solve budgetary problems by imposing greater burdens on automobiles and motor fuels it is refreshing to observe that in Germany the much criticized Hitler administration has taken a bold step in the opposite direction on the ground that the ultimate gains outweigh the immediate losses. It is generally admitted that in recent years automobile production has come to occupy the key position in industry, but governments have been slow to apply the corollary that the best way to stimulate industry generally is by encouraging automobile construction and widespread use.

Recent experience in Germany justifies this policy, for, with the lifting of the tax burden, automobile production has expanded rapidly, related industries have been galvanized into action and employment has increased substantially. The downward trend of motor fuel consumption has been arrested and is slowly reversing its course. The immediate gains have been well worth the tax revenue sacrifice and even that may be recovered ultimately by increase in the consumption of the still highly taxed fuel. Simultaneously a new program of automobile express highway construction has been launched to relieve unemployment and further increase the use of automobiles. Such prejudices as exist against some of Hitler's political policies should certainly be set aside long enough to study his economic theories with an open mind.

The National Socialist Regime was inaugurated on January 30, 1933, when Adolph Hitler took office as *Reichskanzler*. The enabling act broadly extending its powers was adopted on March 10. Thirty days later, on April 10, the new government used its new authority to promulgate a unique law providing for the complete abolition of the license tax on all private passenger automobiles and motor-

*Ceremonies before the gaily decorated Frankfort Börse at the inauguration of work on the national motor highway system.*

© Presse-Bild-Zentrale

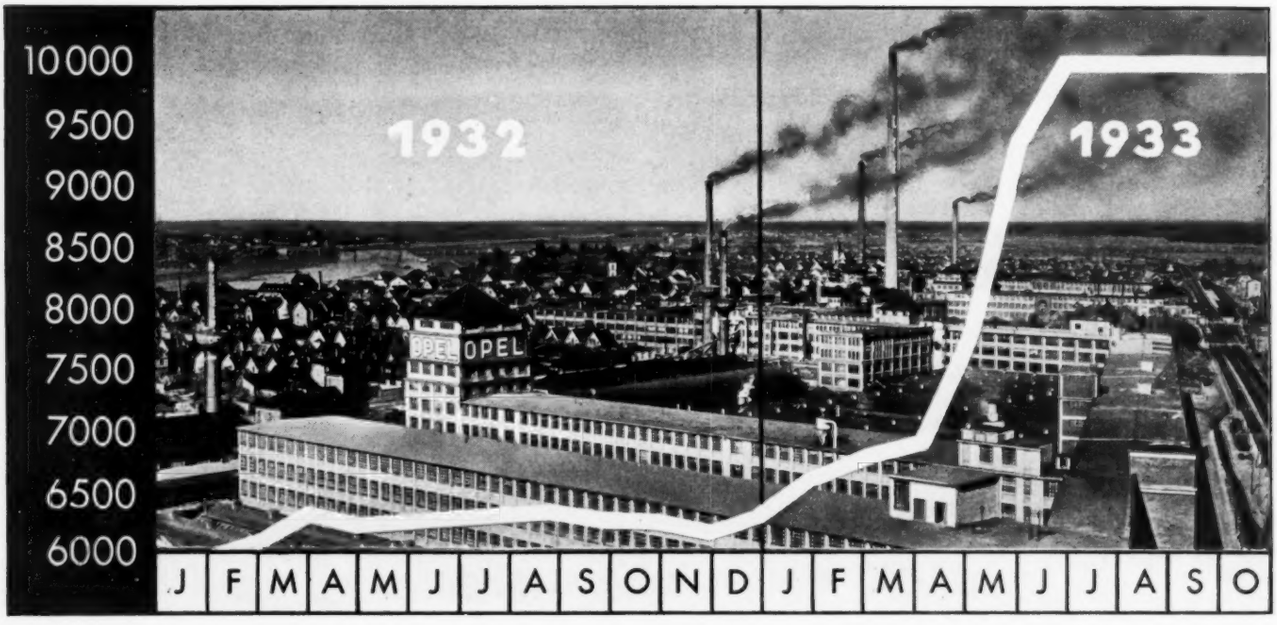



*Figure I: The curve indicates the sharp increase in the number of men employed at Germany's largest automobile factory. While employment increased 40 percent, hourly wages increased 104 percent. Courtesy H. K. McCann Co., M. B. H.*

cycles licensed for the first time after March 31. Subsequently to mitigate the disadvantage to recent purchasers the law was made retroactive to March 25. Motor trucks and passenger buses are excluded from the benefits of the law, but its wording is such that every vehicle coming within it, whether domestic or imported, and registered for the first time after the effective date is tax exempt.

The government has given assurance that this is a permanent policy and cars so admitted are to be tax free for all time. A provision has been made also for compounding the tax on vehicles of this class already in service by the payment of a lump sum. When the vehicle is one year old this payment is three times the yearly tax, when two years old two and one-half times, three years old twice the amount of the tax and older motor vehicles pay one and one-half the yearly tax. It is particularly interesting to note that the German government has no intention of balancing this concession by a higher fuel tax, as contemplated in the pending French budget. On the contrary a project is on foot to reduce the benzine duty.

Some idea of the relief given to the individual tax payer by the *steuerbefreiung* policy can be gained by a study of the appended table which shows the annual license fees payable on certain representative classes in reichmarks as U. S. gold dollars (pre-Roosevelt):

| Typical Car | CCM Rating | Annual Fee RM | U. S. Gold at 4.20 |
|---|---|---|---|
| Opel | 1100 | 146 | $34.76 |
| Adler (Large) | 1700 | 225 | 53.57 |
| Ford (4 cyl.) | 2700 | 357 | 85.00 |
| Cadillac 8 | 4000 | 528 | 125.71 |

*Reichskanzler Adolph Hitler at the Frankfort-A/M. ceremony.*

© Presse-Bild-Zentrale

An examination of the results of this policy is highly informative. At the time this article is written it had been in operation for nine months, sufficiently long to give an accurate indication of its general effect. Experience has shown that the lump sum payments for permanent exemption of previous registrations were placed somewhat high, at least only about half of the number expected by the government availed themselves of the opportunity. It should be remembered that under a liberal provision of existing law registration fees can be paid by the month or quarter, and many owners in fact license their cars only for the summer season. The possibility of further alleviation has been mentioned and this has led some owners to hold up application. The time for expiry of this privilege was fixed for October 1, but extension is likely as is some further concession for vehicles over three years in service.

The tonic effect of the policy on new car sales became apparent immediately. Registrations increased at once, dealer stocks of new cars were depleted and automobile factories were forced to go into heavier production immediately. Figure I, taken from a current advertisement of the Opel works illustrates graphically the immediate response to the burden lifting. Indeed, the overloading of the automobile factories has been a factor in making the increase less than it otherwise would have been as their season was well advanced when the decree was issued.

Statistically the results of this novel course of action are striking. In Germany the first day of July of each year is the day of settlement for all motor vehicle statistics. The number of motor vehicles officially licensed in the years 1931 to 1933 are given in number of units in the accompanying table.

**Motor Vehicles Officially Licensed**

| Year | Number of Units |
|---|---|
| 1931 | 522,943 |
| 1932 | 497,275 |
| 1933 | 522,209 |

It will thus be seen that in about three months the loss evidenced in 1932 had been recouped.

**Registration of Private Passenger Automobiles for First Nine Months of 1933 in Comparison with Corresponding Period in Three Years Preceding**

| Month | 1930 | 1931 | 1932 | 1933 |
|---|---|---|---|---|
| January | 4550 | 2583 | 1441 | 2112 |
| February | 5061 | 2429 | 2056 | 2196 |
| March | 8444 | 5707 | 3147 | 4836 |
| April | 10426 | 8381 | 3855 | 7374 |
| May | 12547 | 8762 | 4880 | 9464 |
| June | 8617 | 7290 | 4904 | 9569 |
| July | 8112 | 6096 | 4716 | 9657 |
| August | 6230 | 4002 | 3786 | 9092 |
| September | 5853 | 3751 | 3566 | 8229 |

Very noteworthy too is the accompanying table giving official figures for the average number of daily *new* registrations of motor cars and motor lorries, for they show that the purchase of motor trucks, not benefiting from tax exemption, has

**Official Figures for Daily New Registrations**

| | Passenger Cars | | | Motor Trucks | | |
|---|---|---|---|---|---|---|
| | 1931 | 1932 | 1933 | 1931 | 1932 | 1933 |
| January | 98.8 | 57.5 | 80.8 | 28.8 | 13.5 | 16.3 |
| February | 101.0 | 81.9 | 91.3 | 33.4 | 14.8 | 18.5 |
| March | 219.5 | 125.4 | 178.6 | 47.3 | 17.9 | 26.5 |
| April | 348.9 | 147.7 | 320.3 | 62.8 | 23.5 | 37.1 |
| May | 364.8 | 202.8 | 378.6 | 64.5 | 27.8 | 47.3 |
| June | 280.3 | 188.5 | 382.7 | 62.1 | 28.2 | 45.7 |
| July | 225.3 | 181.2 | 371.6 | 52.7 | 27.3 | 45.2 |
| August | 153.5 | 140.3 | 335.9 | 38.9 | 24.0 | 43.4 |
| September | 144.3 | 136.8 | 316.5 | 34.2 | 24.1 | 43.5 |
| October | 118.4 | 131.7 | 313.5 | 30.4 | 25.7 | 45.7 |
| November | 93.8 | 117.3 | 231.3 | 20.0 | 24.1 | 42.9 |

risen (though to a lesser degree) as a result of quickening industrial activity.

There is ample statistical evidence that the effect was immediate, and an examination of the 1933 figures in comparison with those for previous years show a noteworthy steadiness in motor sales free from the usual seasonal influence.

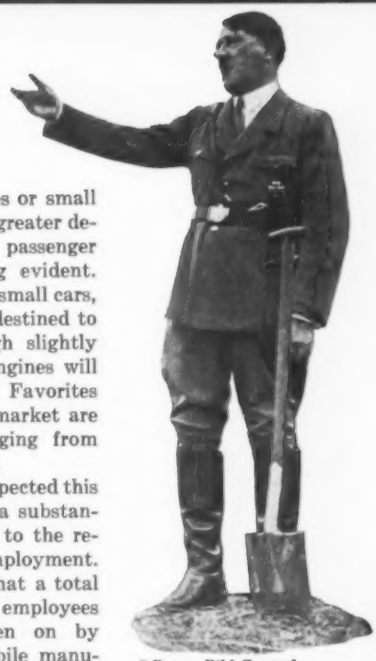
The total sales of motor cars and trucks are reported to have been as follows: 1931—54,700; 1932—38,100 and 1933 (January to September) 70,400. Representative importers state that the increased demand has been felt in their business as well, though of course this might be attributed in part to American currency depreciation.

It is estimated that for the calendar year 1933 a total of 85,000 new cars will be admitted as compared with the high all time record of 108,000 in 1928.

It is significant also that the buyer's freedom to make a choice uninfluenced by the annual tax factor has led to some change in the character of the demand. The sale of small motorcycles under 300 cubic centimeters piston displacement, which have always been tax free, has fallen off sharply and those who formerly bought this class of conveyance are purchasing larger motorcycles or small automobiles. A greater demand for large passenger cars is becoming evident. The demand for small cars, however, seems destined to continue although slightly more powerful engines will become popular. Favorites on the German market are automobiles ranging from 20 h.p. to 37 h.p.

As might be expected this move has made a substantial contribution to the reduction of unemployment. It is estimated that a total of 40,000 new employees have been taken on by German automobile manufacturers since the decree was issued, and this number does not take into consideration the allied trades and industries.

Those engaged in the petroleum industry will be particularly interested in learning the effect on the consumption of motor fuel. While in Germany the consumption of motor fuels in recent years



© Presse-Bild-Zentrale

*Reichskanzler Adolph Hitler making a speech at the beginning of work on the new motor highway.*

© Presse-Bild-Zentrale

*Workmen who are to commence construction of the national motor highway system singing beside the River Main.*

has been declining rapidly (in 1931 by about 5 percent and in 1932 by about 11 percent) this unfavorable progress has been arrested. The decrease from January to October 1933 as compared with the preceding year is about 4 percent, a large part of which was due to shrinkage in the first quarter, or third. It is estimated in well informed circles that the total motor fuel consumption in 1933 will increase somewhat over 1932. The effects on the motor fuel market are not expected to be fully realized until 1934 as its influence was not felt until the season was well advanced. One immediate effect was the retirement of some of the older and larger cars which were among the heaviest fuel consumers. The first autumn months, however, showed an increase in the use of benzine as compared with the same months last year.

While the automobile owning German taxpayer has been given a substantial measure of relief he still bears a considerable burden in the form of duty and tax on the fuel as the accompanying table on page 46 will illustrate.

To give these duty and governmental charges on motor fuel in terms which will be more familiar to American readers the charges on the imported product amount to U. S. Gold $0.145 per American gallon duty, plus U. S. Gold $0.05 per gallon turnover tax, plus an alcohol burden of U. S. Gold $0.0175, or a total per American gallon of twenty-one and a quarter cents gold.

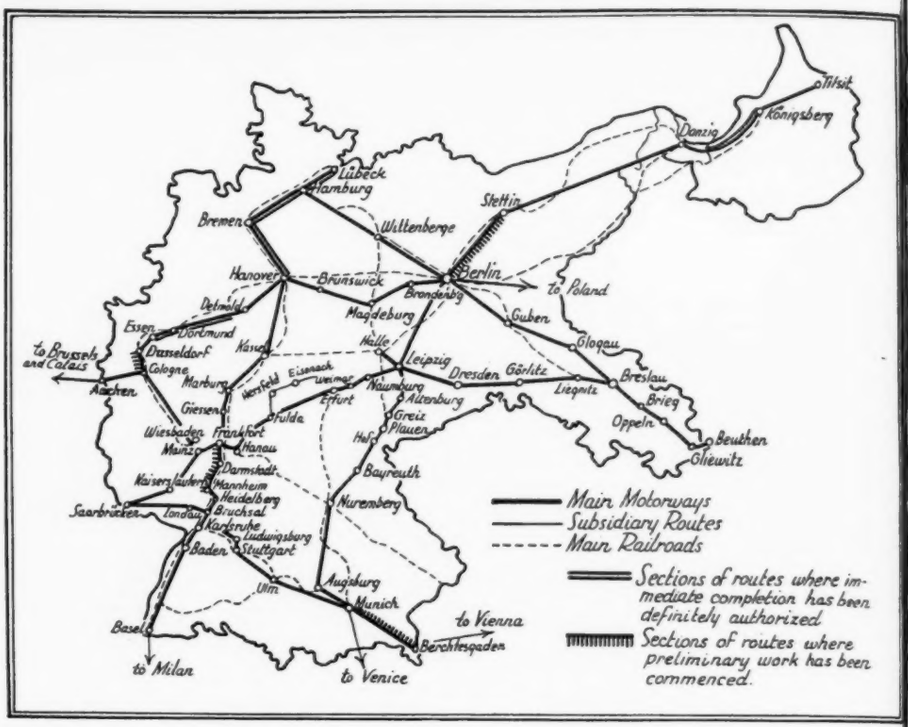



**Figure II: Map of the Projected German National Motor Highway System.**

**Routes Where Completion Has Been Definitely Authorized**

| Route Section | Approximate Length Kilometers |
|---|---|
| Frankfurt, Main—Mannheim | 130 |
| Cologne—Düsseldorf | 36 |
| Munich—Salzburg | 120 |
| Berlin—Stettin | 130 |

**Routes Where Preliminary Work Has Commenced**

| Route Section | Approximate Length Kilometers |
|---|---|
| Magdeburg—Berlin | 130 |
| Hamburg—Bremen | 120 |
| Bremen—Hannover | 110 |
| Hamburg—Lübeck | 60 |

© Presse-Bild-Zentrale

*Seven hundred workmen marching in the ceremony at Frankfort-a-m-Main which preceded the commencement of work on the German national motor highway system.*

It will be noted also that there is a very great advantage in favor of the domestic product.

German willingness to abandon the old theory of automobile taxation is in marked contrast with rigid British adherence to the traditional theory of a heavy license fee resting on the concept of the motor car as a luxury. In England the basis of taxation and the weight of the tax have powerfully influenced automobile design, handicapping the manufacturers to some extent in the world market. The theory and to a degree the experience of British makers has been that the type of motor designed to fit the home tax situation develops a following abroad because of superior economy. Germany evidently intends to follow more nearly the American policy of subordinating the registration fee, placing the burden on the fuel and thus giving the designer greater latitude.

It is evident that automobile tax abatement, outstanding though it is, is but a detail in a larger plan designed to make Germany the most highly motorized country on the continent. This objective

© Dutsche Dunlop Gummi Co. A/G.

*Adolph Hitler greets Dr. Dorpmüller, president of the German State Railroad Company, which will administer the new automobile express highway when completed.*

which is a cardinal feature of the economic policies of the Hitler *Regierung* is of such a nature as to touch the imagination of the German people who take an unusual interest in automobiles and are attracted to the possibilities of motorization. The enthusiasm which such a policy can inspire is highly valuable in sustaining the people throughout the trying initial stages of a new movement. Germany believes that she must be a Motorized Nation in a Motorizing World if she is to preserve her commercial prestige and develop her export services to the full.

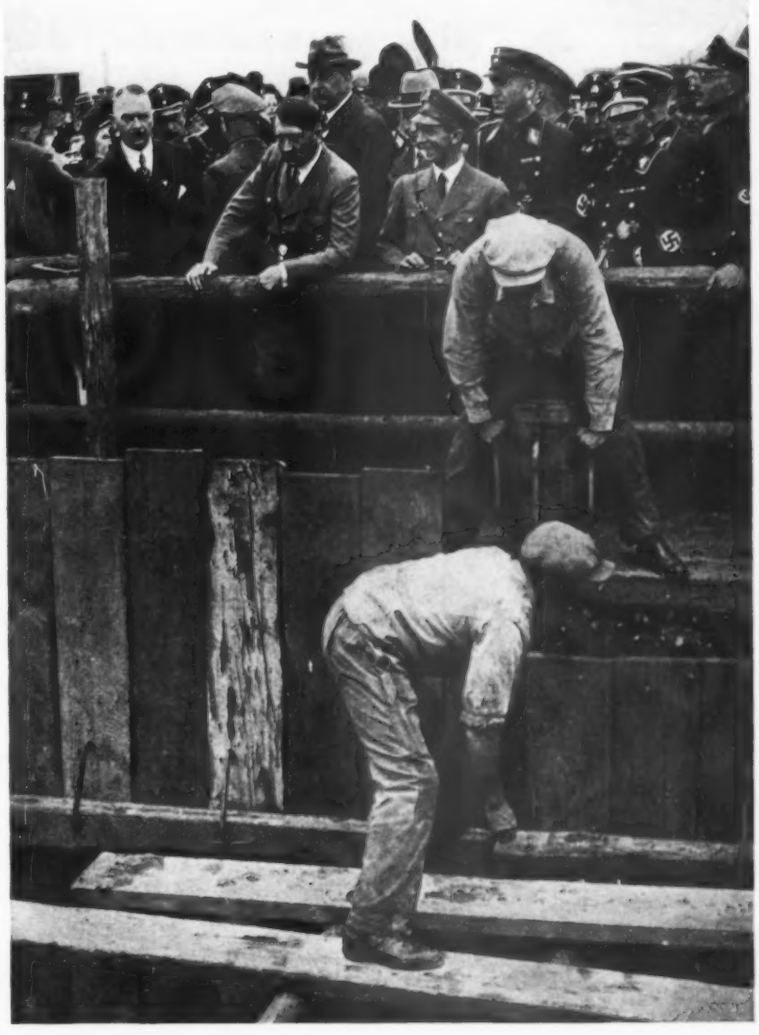
After *steuerbefreiung* the next step towards motorization was the projection of a comprehensive plan for a national network of automobile express highways destined to span Germany from Aachen to Tilsit, from Lübeck to the Austro-Swiss frontier. These roads are designed specially for automobile traffic and reserved to it. Gradients and curves are to be kept to a minimum and open grade crossings avoided. Full engineering details are not yet available, but it is assumed that they will follow the general pattern of the existing Cologne-Bonn motorway. They are to be operated under the direction of the German State Railway Company, probably for a toll fee under a general plan similar to the Italian auto-strada, or the Long Island Motor Parkway. Their construction is expected to provide work for 300,000 men.

The complete projected system is shown in Figure II with the sections in which immediate completion has definitely been authorized, indicated by heavy double lines.

The construction of the Frankfurt-Mannheim Section was commenced on September 23. Initiation of the work was made the occasion for colorful ceremonies at which *der Führer*, Adolph Hitler officiated, accompanied by Reichsminister Dr. Goebbels, Dr. Ing. Todt, General Inspector of German Highways who is in charge of the program, President Dorpmüller of the German State Railway Company and others. Photographs of the ceremonies by means of which the occasion was skilfully dramatized are reproduced in connection with this article. Construction of the other three routes was started in November and another large section of about 100 kilometers in the Ruhr district has also been taken in hand.

These activities, at least, of the New Germany, the world may well view with equanimity and in fact with a certain amount of reassurance. There are grounds for believing that, in the long run, the motor car may prove a better agency of peace than many of the facilities consciously created to preserve it. War is often born of misunderstanding. Free association, the broad contact of one people with another should diminish the hazard. Motor cars give their possessors the urge to travel. The possibilities of the immediate environment are quickly exhausted and the tendency is to cruise farther and farther in search of new scenes. More people range freely over Europe in motor cars every summer now than journeyed to the Crusades which pro-

© Presse-Bild-Zentrale



*Adolph Hitler and Reichsminister Dr. Goebbels with General Inspector Dr. Todt watch the beginning of the actual work on the national express highway system.*

foundly influenced the history of Europe. Is it too much to hope that the fine broad highways which will shortly lead to every frontier will encourage peaceful touring which will broaden Germany's understanding of her neighbors and encourage these in their turn to gain their knowledge of the essential German people at first hand?

The press is an invaluable source of information but it is always flavored to the national taste and is most useful when supplemented by personal observations. Both before and since the recent changes in government the writer has motored thousands of miles in Germany. Without in the least challenging the views of those whose experience may have been less fortunate, he feels it only fair to state that from start to finish his experiences have been uniformly pleasurable, while recent observations have been made particularly interesting by the stirring vitality of the country and the changes in progress. The writer's impressions, drawn from those areas personally visited, are that many of the policies whose manifestations prejudiced the outside world at the beginning of the revolution are being considerably modified and that the government now shows many signs of being susceptible to world opinion. The general impression is one of returning prosperity in which those engaged in the motor fuel industry will doubtless participate.

**Duty and Governmental Dues on Motor Fuel in Germany**

| | Duty | Mineral Oil Tax | Turnover Excise | Compulsory Alcohol Burden (For each 100 kg. of motor fuel 10 kg. alcohol must be taken over) | Total |
|---|---|---|---|---|---|
| **Benzine:** | | | | | |
| Imported | 21.93 | .... | 0.61 | about 4.41 | 25.95 |
| Domestic | ..... | 3.80 | .... | " 4.41 | 8.21 |
| **Benzole:** | | | | | |
| Imported | 20.40 | .... | about 0.75 | " 4.41 | 25.50 |
| Domestic | ..... | 3.80 | .... | " 4.41 | 8.21 |

All figures are Reichsmarks per 100 kgs net

▼

# Moffett Joins Standard of California

ANNOUNCEMENT on January 12 of the appointment of James A. Moffett as vice-president of Standard Oil Company of California with headquarters in New York was received with great interest in oil trade circles. This was not only because of the prominent position that Mr. Moffett has long occupied in the industry but also because it was interpreted, in connection with other recent developments, as indicating a purpose on the part of the California company to become a more active factor than heretofore in the international oil situation.

In July last Mr. Moffett resigned his position as vice-president of Standard Oil Company (New Jersey) after twenty-eight years of service with that company. During recent years much of his time and attention had been devoted to the export activities of the company and he was closely identified with early efforts to bring about a better understanding among the companies engaged in international trade.

At the time of his resignation it was stated that it was due to his acceptance of a place on the industrial board appointed by President Roosevelt of which Walter C. Teagle, president of Jersey Standard, was a member. Mr. Teagle was reported to feel that it was inadvisable for two officers of one company to serve on this commission. In a statement given out at the time Mr. Moffett explained that he regarded President Roosevelt's call to public service as a command but added also that he was out of sympathy with some of the policies of the Jersey Standard Board. One of these policies, as was made clear at the time, was government price fixing which Mr. Moffett advocated but to which the other officials of the company were opposed. Standard Oil of California, through its president, K. R. Kingsbury, was one of the few major companies that supported price fixing by governmental authority.

*James A. Moffett*

Various steps taken by Standard Oil Company of California within the past few years have indicated a purpose to expand its activities both in the domestic and in the international field. Among these have been its effort to obtain control of the Richfield Oil Company which has extensive distributing facilities both on the Pacific and Atlantic coasts of the United States. On the opposite side of the world Standard of California is developing the field which it controls on the island of Bahrein in the Persian Gulf. This development is being pushed forward actively at the present time. A few months ago the company acquired an extensive concession in eastern Saudi Arab which is now being surveyed.

Standard Oil Company of California for a number of years past has sold petroleum products to other companies operating in the Orient and in the eastern part of the United States but has not attempted to extend its own operations to these fields. Its present activities in the Near East and the addition to its executive staff of Mr. Moffett, in view of his identification with international trade, is interpreted by many members of the industry as forecasting a purpose on the part of the company to play a more active part in the international situation.

▼

### Front Cover

OUR FRONT cover picture this month, published by courtesy of Dr. Paul Wolff, shows work actively being pushed in Germany on the new road program designed to stimulate motoring. In addition to furnishing employment of a type that will eventually pay the nation large dividends, the stimulation of motoring by modifying the taxes on motor cars and building fine new highways, should attract motorists from all over Europe.

# Inspecting the Source of the Trouble—and Profit

***Diary of a New Oil Man on His First Inspection Trip—an Intimate Review of the Industry as Observed by a Recent Recruit Who Considers Old Problems From a Fresh Point of View.***

**The accompanying article is extracted from an actual diary of an executive on an exhaustive annual inspection trip by which the president of a large corporation keeps himself and members of his staff informed on actual conditions in the fields, refineries and marketing outlets of his company. The immediate tangible benefits as well as the less obvious long term advantages of these annual trips may be glimpsed between the lines. The diary was obtained only after overcoming very considerable reluctance on the part of the author to consent to its publication. For obvious reasons the names of men, places, days and dates are fictitious. The route and its general location have been purposely distorted. These events, however, are actual and the quotations, while not including always the entire conversation, are exact as far as they go.**

MONDAY, MAY 15:

ALTHOUGH the annual inspection trip is not to begin for a week, a foretaste of it came this afternoon when at 4:30 Mr. President, John Temple, Joe Schultz, and I examined the company garage. Never imagined its equal for neatness; waxed concrete floor, fresh paint, cars arranged evenly, no grease. Then the motor machine shop, the carpenter shop (so clean and lacking in belts I thought it wasn't in use yet), the paint shop with the new bus being made ready for the trip. Looks pretty comfortable with movable armchairs, tables, ice water, fans, etc. Guess it will have to be if we are to spend over a month in it. After dinner we looked at our service station No. 1, perfect in design and upkeep. The only criticism was for failure to keep oil dispensers protected from dust.

WEDNESDAY, MAY 17:

LONG VISIT in hotel room with Fred East, land scout, and Jack Lester, pipeline superintendent. Mr. President came in later with production men. He let them all have it straight on land and lease acquisition. He can use profanity more smoothly and compellingly than any man I ever saw, so deeply sincere it is almost praying and you feel he's right. You are impressed with his emphasis on company-mindedness, which is one essence of leadership. You also know he has been through these things and would be able to do them himself. The impulse is to live up to his expectations. Rumors of our merging with a very large company were brought in. Mr. President said he thought "men had all they could do managing the company's present properties without taking on the fuss and trouble of merging, stock manipulations, etc." Many evidences today of this man's capacity for quick decisions, right ones, too, and immediate action. It saves huge quantities of time, enough to offset what few errors he may make, and has a fine psychological effect on the men. This ability comes from his real factual knowledge of all that is going on in the company. Here alone is reason for his annual inspection trip. How many presidents do it? How many would know what to look for? After dinner much reminiscence of life in the two-fisted oil fields of Venezuela. What a picture of an oil man!

SATURDAY, MAY 20:

REAL INSPECTION began today in the refinery. Mr. President notices every detail, looks into every drawer, corner, waste-can, cabinet, on top of every locker. If a drawer or room is locked he asks "Is everything all right in there?" and when the answer is "Yes" he says "Then we'd better have a look." His criticisms vary from a mild directing of attention to sarcasm and violent "calling down." The man in immediate charge must take notes to guarantee future correction. Mr. President has a secretary, Joe Mosher, at his elbow taking notes of every fact and word to enter in the "wise book" for future follow-up. The effect on the morale is tightening. The wise man admits error and promises to correct for he is as sure to be in the wrong as when stopped by a motor cop. But he doesn't admit the same error twice. The pneumatic guns were not in their oil bath for the second time today and a foreman may lose his job because of it. Company property and allowed to rust! What a set of standards the annual repetition of this inspection must build up.

Mr. President also shows insistent curiosity about new things. In the laboratory he watched closely the centrifuge and the emulsion pump. New developments are given significance by his broad and detached knowledge. From plant to plant he brings new tricks.

From vice president down to foreman each man should keep up inspection all the time after this pattern. Fine as the condition of the plant was, there was new evidence that they were not doing this completely. Why? Too long in the game?

Inspection in this style takes lots of energy and persistence. Mr. President was just as detailed at the end as at the beginning. His last act was to grab the green metal door of an outside fuse cabinet on the grease building. The hinge was rusted through.

Going home tonight I saw a gob of grease in the middle of the garage floor and promptly directed it be removed.

Getting Mr. President's habit already.

A wonderful experience, this refinery inspection. These oil men find themselves facing new, costly situations all the time and they meet them and lick them partly through the very practical attack of scientists, partly through long habit of being on their own resources facing necessity. Evaporation is a good example. Development of stocks above ground brought great losses from this source. Now they have half a dozen clever devices which have cut evaporation to a negligible factor even in gasoline storage.

There are more damn pumps in this refinery than I thought there were in the world. And valves—? And what complicated, delicate things are done to petroleum in huge, clumsy-looking apparatus with products coming out to a minute nicety and nothing thrown away. Moreover, I believe this is the only basic product that is never seen by human eye from the time it is extracted from its mile, or more, deep source until it is consumed in your car and the waste products purr into the air to dissipate themselves invisibly. Through pipes, tanks, valves, apparatus, furnaces, more pipes, pumps, tanks, valves, tank trucks, pumps, tanks, valves it goes. It is changed so as to be wholly unrecognizable. Only the antiquated "lookbox" now disappearing from use, gives a chance to see what we are working on, or the occasional obsolete visible pump still at the filling station displays to the user what he is going to get. This great refinery goes on taking its thousands of barrels of crude and giving off its thousands of barrels of fifty different end products, does it to a hairline dial reading, does it in obedience to the eye reading the instrument chart and the touch of a hand on a valve. This is the story of the Twentieth Century told by one industry. I begin to see that this annual inspection is the president's eye on the instrument chart of human action and his hand on the valve that supplies the human power.

Again Mr. President's visit shows its value. He can talk intelligently regarding any technical matter, whether of the best way to break up coke in a still bottom or of proper gasket material in a hot-oil pump. Tools are sacred things to him, to be treated as possible life savers. A broken or worn Stillson wrench may slip and cost a life. Inability to find a tool in its proper place may blow up a refinery. Machined metal surfaces are works of art never to be allowed to rust ever so slightly. The men may forget this man's instructions but they never do forget his attitude.

An oil drum is being used for low pressure line storage. Mr. President knows the capacity of this drum to stand pressure. No doubt he has seen in Venezuela or Texas or Louisiana or Montana some exploded oil drum and stowed away the fact not knowing when he might use it.

This inspection develops pride in the men and mild competition for Mr. President's favor, or for avoiding his censure. He praises not often, but when outstanding merit deserves. The disappointment of foremen and department managers if Mr. President fails to cover their whole division is highly significant. This is not due just to the wish for his favor but because he is the highest court of judgment whose approval proves to themselves their own attainment of the very ideals of performance he has fostered. Efficiency and safety are inevitable results, which means low cost. The inspection trip is worthwhile if only for the character model it lays before the men.

MONDAY, MAY 22:

UP EARLY, dressed in field clothes, and off at seven in the wonderful bus with production and manufacturing vice presidents, general sales manager and one assistant, the advertising manager, division sales manager, purchasing agent, chief engineer, pipeline manager, chief of motor transport, chief engineer, and several others. We covered many service stations and bulk plants and half a dozen production leases in a long day's run. Mr. President hits the marketing property inspection as hard as refinery. The marketing men get great value from seeing filling stations in sequence as one would in touring. To the men at the stations it is highly stimulating. Each field man rode through his territory in the bus with us. Mr. President talked at length with these men. His asking agressive, intelligent questions made them think and opened up new and fresh ideas. A month from now, one of the assistant managers from the home office, now with us on the trip, will cover this ground again, notebook in hand, to see if Mr. President's directions have been followed.

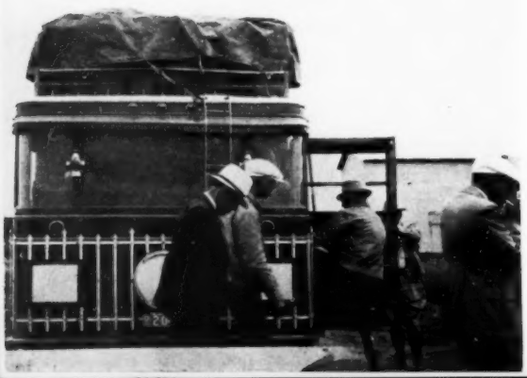
Mr. President spotted a vapor pocket between a tank vent and a wood roof in the old bulk plant at Gardner. The correction of this may save a whole plant and several lives. This man remembers much detail from his last visit. "We were going to concentrate our storage in fewer buildings last time," he said at Mason. Men must be on their toes in face of this kind of memory.

*Production: characteristic pose on a lease, determining the amount of vibration.*

One should see Mr. President when he strikes a lease. He is in command as never before, more keen-eyed than ever; no doubt a return to years of habitual attitude under a derrick. His whole attitude, his sweep of the hand downward, tell that he is seeing from the bottom of the hole, with all its "pay," clear to the crown block 125 feet high as if it were all spread out before him. Language becomes full of bullwheels, Christmas Trees, mule-heads, headache posts, roustabouts, roughnecks. He even quotes from the good old days, "The sons of bitches, those cable-tool men, all they need is a goddam 10¢ straw hat and a goddam chew of Mail Pouch." Color!

We found our camp under the shadows of old derricks. As the dusk fell, I had plenty of time to wonder at these oil men. They have the most undeviating way of meeting natural obstacles by making them serve rather than obstruct. They use the product's own properties to prepare it for the consumer. As I write there is a thump-thump—thump-thump thump—the exhaust of a motor on a standard rig out there in the dark. It pumps oil by using the gas from the oil well. This gas is separated from the oil in a trap by reason of its greater volatility. The "polish rod" of the pump is lubricated by its own product. The "gun barrel" separates water from the oil by the varying gravities inherent in the mixture. In case it doesn't entirely separate, the last resort is forcing it through excelsior. This always does it. "How?" "Don't

*Starting off on a one month 8,431 mile inspection tour of every angle of a great oil company.*



know," says the oil man, "but we've just found out it would, that's all."

TUESDAY, MAY 23:

OFF ON THE second day of this trip. All marketing properties today. At Mandan, Mr. President answered the request for an $8,000 new station by demanding a new contract for sufficient gallonage on the spot. He got it and at once O.K.'d the station. Later he made a quick decision, on recommendation of the division manager, to abandon a useless bulk plant and transfer its gallonage to another. Red tape had delayed these two decisions. The example to marketing executives of cutting the red tape by seeing the situation on the spot will speed up some future actions. Indoctrination, we used to call it in the Navy.

This trip makes regular territorial men see old details in a new light. Mr. President is fresh at the game. He sees and acts on every little thing such as tools out of place, leaky rivets in tanks. Exceptional property appearance. which has great marketing value, is only one benefit.

Mr. President's method for searching personnel analysis includes questions purposely misleading as to his own views. This occupies the time between stops of the bus. Marketing executives gather round to listen and occasionally put in their own questions, but Mr. President sharply cuts them off if they try to answer for the local field man.

An example of indirect questioning came today. Mr. President wanted the real dope on the St. Paul city manager

*Refining; no corner of a refinery was too remote for our inspection.*

situation. He had no knowledge as to how reliable the judgment of assistant division manager Tracy was. After pumping this man thoroughly on the St. Paul problem he did the same regarding Minneapolis, pretending complete ignorance of the personnel situation there. Tracy fell into a trap. He insinuated severe criticism of Johnnie Netherland, Minneapolis manager. Mr. President knows Johnnie well and is enthusiastic about his results. Tracy received a burst of opinion about his knowledge or his integrity or both in such explicit and forceful English, colored with biblical terms of great power, that he wilted completely and admitted his error.

The two clean rows of brown tents headed by the mess tent with its long, oil-cloth-covered table, looked like home to us tonight. Even if the rain did make a river under our feet as we exchanged dollars at black-jack after dinner and even if the Chief, our two-gun night sentry, did have to stand out in the soaking squall and hold the tent guys, we kept dry and carefree. This once I'll admit the Army did a good thing; for Major Henry, formerly a hard-boiled quartermaster or something in the A. E. F., is in charge of the physical management of this tour. And is it well done! Two trucks and two passenger cars carry the camp equipment. Eight men break camp after we leave. They pass us during the day when we are slowed up by inspection stops. Every night at midnight Jimmie Rounds, the night-hawk, in an unbranded car, carrying each man's laundry in a specially labeled bag, drives ahead to the next stopping place. He leaves the laundry for one-day service; then drives out to negotiate for a camp site not too far from town. He has also a spare set of tent pegs which he drives in exact pattern according to templates he has in the car. By the time the trucks arrive all is ready simply to set up the tents and furnish them with their carefully labeled beds, tables, chairs, lanterns, mirrors, wash basins, soap, towels—yes, even a rug at your bedside and a flashlight to find mosquitoes with, if there are any. A portable shower, supplied from a tank on one of the trucks, makes every man fresh for each day's work.

WEDNESDAY, MAY 24:

THANKS to last night's rain we all had to get out and heave the bus through the mud this morning as far as the highway. Nobody minded. Between Mankato and Luverne we came to a long line of cars stalled by water over the road as deep as the floorboards. Our high clearance bus went through towing two of our other cars, much to the interest of the general public. Mr. President sent our next bulk plant agent back to the spot loaded with motor oil and instructions to offer service to each car coming through which might

*Distribution; thousands of gallons leave bulk stations daily for more efficient delivery as a result of the annual inspection.*

have water in the crankcase. I never heard whether he got any business but the example of sales-mindedness was worth many a dollar.

Due to a necessary detour from our planned route, we sprung ourselves unannounced on one bulk plant today. Its perfect condition assured us that the district superintendent either kept his properties up regardless of inspection or had a commendable way of preparing himself for any unforeseen contingency.

About 3:30 p.m. we came to the Sioux Falls refinery. What a kaleidoscope of the oil industry this trip is. Service stations, wells, refineries, bulk plants, tank farms taken as they come. The control room at this refinery, with its many glass-enclosed and beautiful instruments, is typical of the refinement of control in American industry. Two men constantly move up and down the long board watching a pen point on a chart, or the needle on a dial, which are to them the language of flow, pressure, temperature.

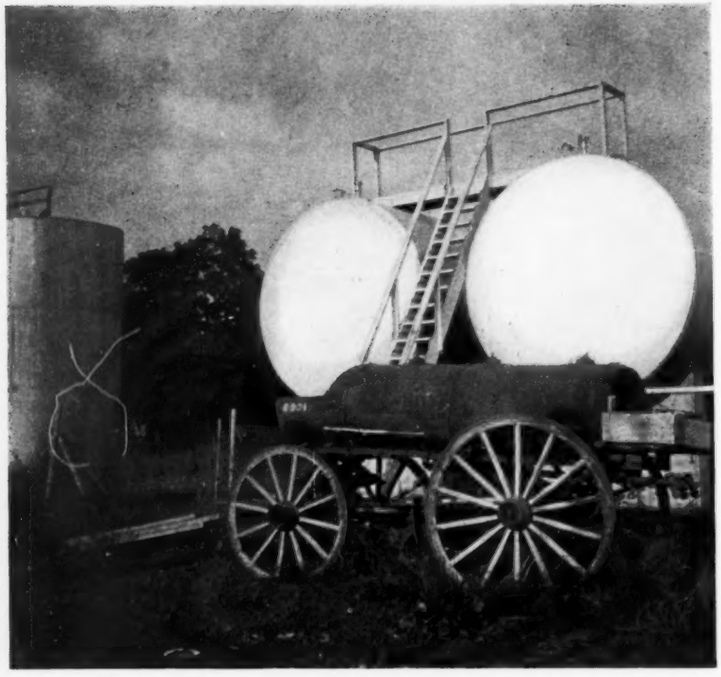
Every corner of the floor in this plant is painted white bearing the word "Don't" conspicuously in black.

Mr. President has certain cardinal points of inspection:

1. Neatness.
2. Safety.
3. Junk all not immediately useful odds and ends of equipment. Destroy all catalogs as time wasters, and junk files more than one year old. "You handle such by necessity so often that you waste time looking for something current."
4. Tools cared for and in place.
5. All which brings safety brings economy.
6. Pride in your job is essential and cannot be complete unless your results are neat, safe, and good to look at.

On these, at least, hinge the amazing appearance and efficiency of our properties.

Into the spotless glassed office of the



*Annual inspection trips eliminate conditions like this; equipment on a neighboring oil company's property on which amortization is doubtless still being paid.*

fire house Mr. President finally went, today, but first he said, looking at his muddy boots: "I'm just aching to go in there and open up those cabinets but I don't want to get your floors dirty." Mr. President sees readily enough into the insides of pipes, pumps, condensers, stills, engines, cylinders, bearings, as if they were glass. Drawers and cabinets are the only things he can't see into without opening. Here the human element comes in. Wherever this enters he tries to make it conform to machine precision, but only at the instance of the man's own intelligent determination. His inspections are check-ups not to get men "in wrong" but to teach orderly thought, and action.

Frank McGraw, general sales manager, said to me today during the refinery inspection, "I never knew a man who knew so much about all major departments." How does this Mr. President know so much? Where did he learn it? He knows enough not only to ask intelligent questions but to give wise advice regarding such widely varied objects as lumber storage, lightning protection on stacks, oiling rivetting guns, loads on pump motors, cleaning paint brushes, fences, railroad cars, typewriters, stationery, overalls, salesmen, crown blocks, and rough-necks. His unexampled power to visualize, to see the obscured or the imagined object, is his power to remember and is his strongest aid in absentee management during the rest of the year. Knowing what he knows must be the result of decades of inspection on whatever jobs he had. Sounds like eulogizing the President to myself all the time, but this is what I see and hear from the other men on the trip and I'm just wondering how many presidents of oil companies have the grasp of what is going on in their operations and keep it from being obscured by market and production statistics or the pool operations in their stock? I am told the answer is "Few, if any," because to know these vital facts you must see with your own eyes and remember.

The refinery inspection started with an unfortunate matter of carelessness on the part of a chemist in the laboratory who stored much expensive glass equipment in bare wood drawers where breakage would be easy. Mr. President, of course, opened every drawer. He was soon aroused to genuine and quite understandable anger. He demanded that the chemist come in tonight and put them all away in cotton. The incident so affected Mr. President that his later self-restraint and more reserved forcefulness were, by contrast, enormously effective. The whole subsequent inspection was the best yet, an elevating, stimulating education in order and attention to one's job which left us surprised to find it 8:15 before we reached the night's quarters and a row of sizzling steaks.

THURSDAY, MAY 25:

LEFT SIOUX FALLS at 7:00 a.m. All marketing properties today. Long conversations on sales topics in the bus all day. Mr. President has a strong antipathy for organized sales meetings in which I share. He said "I've seen many sales conferences. Each is always the 'best ever' and then the men all go out to their districts and forget everything." He added that any plan depends for success on the work and imagination of the key men, the division managers, district supervisors, etc. At the end of the conversation most of us were agreed to cut sales meetings down or out and have sales plans transmitted by individual sales executives working with the key men in the field.

Mansfield, city manager at Sioux Falls, left on the bus with us today. His "third degree" brought out his reasons for decreased motor oil gallonage. They were: competition of cheap oil, motorists are running more miles between drains, the banks are closed, etc. Mr. President listened as if entranced by the novelty of the excuses. Then he said, "You've left out one. The farmers have gone back to horses."

Mr. President's energy is enormous. It is contagious, I find, for Charlie Rumsey, advertising manager, today confided to me, "I must see that I keep Mr. President's energy every day, all day, and never let up, never!"

Reached Kadoka before dark to drop into a fine camp. Wonderful broad lands, distant escarpments, higher altitude, fine air. The gang are in high spirits.

FRIDAY, MAY 26:

LEFT EARLY this morning and passed through Rapid City where marketing outlets were inspected. Covered, late in the day, well-kept producing leases where the lingo became another language not so different from that of the days of sail. Across the fence a competitor's lease. If their boss ever came to see it he should hide his head in shame at the contrast. That suggests a new thought. Perhaps they don't come because they're afraid of what they'll see! But, after we had studied maps, planned new holes, squinted at the band wheel of the power to see if it was true, sighted along the shackle lines, and found nothing to criticize, Mr. President said, "Jim Matthews (director of the company) said, when he saw this, that it was fine to look at but it cost a hell of a lot of money. Can't these people see

*The condition in which paint brushes are left indicate the workman's attitude toward company property.*

that upkeep saves? In the last five years this bringing up to condition of the properties has cut operating expenses 47 percent. Failing this the company could not have survived." Food for thought. The value of these inspection trips can be counted covered in this one factor.

"Keep your eye on Hunter," said Mr. President, "he'll be a production man of importance some day. He was honor man at his mining school and is not only a brilliant engineer and geologist but a fine handler of men and a man of judgment." Hunter is local superintendent. I like these production men. They are bronzed, husky, clear-eyed, honest, hard-working.

*In the comfortable camp that was established daily, making us independent of towns and hotels.*

SATURDAY, MAY 27:

BOUGHT a bulk plant today at Lusk. Cutting red tape again. Mr. President looked at it and made a "while you wait" decision. The marketing men conducted the negotiation. Mr. President had lots to say, too, about cutting out red tape in the hiring and selecting for promotion of men in the sales field. It seems one executive at the home office keeps his finger on this and he rarely gets out on the firing line. So everything isn't perfect, after all.

Mr. President's interview with each local marketing man concludes, before he finishes, a volume commitment based mainly on the man's own promises of what he can produce. These are no idle figures, for Mr. President dictates them to his secretary, Joe Mosher, who is at his boss' elbow whenever anything is said or needs to be taken down. Later this record will remind Mr. President to write and ask each man how he made out. This all must have a fine effect, at least to make the man plan and put more energy into his work.

SUNDAY, MAY 28:

STARTED the day with inspection of the fine bulk plant at Thermopolis. Mr. President spotted belt-dressing on the pump belts. This, he said, is very dangerous as it generates static where gasoline fumes may be. You sure do have to watch your step with these products of ours. Every minute.

"Why isn't that fence painted?" asked Mr. President. "We saved on that," said Mack Holland, division manager, "no one ever saw it so we let it go." "That doesn't make any difference," replied Mr. President, "whether you see it or not. Anything worth having is worth maintaining."

That is now our fundamental philosophy.

Posters in this town were in bad shape. They will be checked better in the future.

A new service station with good location is needed here. "Frank," said Mr. President to the general sales manager, "Let's start this thing right now and every Tuesday morning till hell freezes over bring up this matter. If someone looks sour we always drop it. The only way to do is keep after them."

At dusk tonight the great, broad land led up to three ranges of mountains in the distance, each with a different, unbelievable, shade of blue. An enormous country, spreading out one's whole point of view. A lot of men who never leave their offices would do better work and have better judgment if they would get out here once a year.

MONDAY, MAY 29:

THIS TOWN has had a big slump in gallonage. But it has good possibilities. The bulk plant, with a new hardwood floor untreated and messed up with oil drippings, showed "the result of temporizing with a poor man." That's a word Mr. President hammers in fifty times a day. "Don't temporize. A condition is either right or wrong. If it's right keep it. If it's wrong don't wait till next Christmas to do something about it."

At Basin, service station No. 12, K. C. Roland was in charge. His father was a furniture dealer back in Pennsylvania where Mr. President was born. He and Mr. President had never met since both had been with the company. Roland, what's more, said nothing about the old friendship until Mr. President came around for inspection. Then he handed him his card, so to speak, by promising to double his gallonage by January 1.

It was so cold tonight that there were no users of the shower. The Major forgot to provide ice picks, the men said. Trust the Major, however; he'll fix something up by tomorrow night, with the help of Joe Hertz, the world's most ingenious, conscientious, inveterate worker.

**[This is the first of a series of two articles made up of extracts from the actual diary of an oil man; the concluding article will appear in the next issue.]**

*Mr. President goes aloft; no part of the company's property escaped personal inspection.*

*Wharf and shipping station on the San Juan River through which Venezuelan crude is loaded into tankers.*

# Eastern Venezuela Scene of Active Development

***Vast Area of Equatorial Swamps and Jungles Contains Promise of Production which will Make this District Equal to the Maracaibo Basin.***

***By Neville O. Fanning.***

WHILE 97 PERCENT of Venezuelan oil production has come in the past from the Maracaibo basin there is a strong possibility that Eastern Venezuela in the not distant future may assume a position of equal or only slightly less importance. These eastern fields have attracted the interest of major oil companies for several years past and are now the scene of active developments that may serve as the introduction to a new and important chapter in oil history.

Particular interest attaches at the present time to operations in the southern central part of the State of Anzoategui where the Venezuela Gulf Oil Company has drilled a wildcat test known as Oficina No. 1, which was completed during December last at a depth of 6,184 ft. This well was a large dry gas well and its showing apparently led the Gulf Company to start other and further test wells. A new well to be known as Areo No. 1, was spudded on January 7, 1934 and is located approximately eighteen miles southeast of Oficina. The company will also start a third well which will be spudded probably some time this month at a point about 10 miles north of the village of Cantaura. This will be an interesting test, because it will be in country entirely different from the wells to the south and will test out structures where there are surface indications of the geology. In the southern wells, Oficina and Areo No. 1, locations were made entirely from geophysical researches and studies.

The results at Oficina No. 1 were presumed to be unsatisfactory, because the Gulf Company is making preparations for a new location four kilometers north having moved the tools from Oficina No. 1, to this new location. Within the next couple of months, therefore, the Gulf Company alone will be drilling three wildcat wells in eastern Venezuelan territory.

The Standard Oil Company of Venezuela is now evidencing considerable interest in the general region, and recently has taken up a large territory in the extreme southeastern part of the state, in the District of Independencia, where it is understood that the Standard will drill a test well within the next year.

While it is entirely too early to say what may be the outcome of this wildcat drilling in Anzoategui, nevertheless, if oil comes to be discovered in that state, it would be a matter of very considerable economic importance to Venezuela. All of the southern part of Anzoategui, together with the southwestern part of Monagas and the south part of the state of Guarico which adjoins Anzoategui on the west, consists of fairly level plains, or as they are locally known, sabanas. These are cut only by the ravines which lead into the Orinoco on the south. The area is entirely devoid of timber and is essentially a cattle country with heavy growth of grass during the rainy season. The ravines are wooded and there are very few good roads. When the waters of the river are high, transportation is extremely difficult. If petroleum development comes to justify it, however, good roads could be constructed at small cost. Construction of pipeline over this plains territory would not be expensive. Owing to a dip in the Caribbean coastal mountain range, access to the Caribbean from this plains region would be relatively simple. Deep water exists on the coast of the country bordering the Caribbean Sea along the north shore of the State of Anzoategui and a direct line from any possible oil fields to tidewater is available for pipeline construction. Drilling material for the Anzoategui operations now comes in by way of the Orinoco River up to a point called Soledad, where it is unloaded ashore. From Soledad all material is hauled a distance of 65 to 75 miles on fairly good natural sand roads to the camps which the Gulf Company has been utilizing for its operations. In this respect the Anzoategui field differs from the Monagas field where the Standard of Venezuela has been operating for the last several years. That field is low and swampy, and road construction has been a tremendously costly task. Material enters through the Gulf of Paria into the San Juan River, is carried in ocean vessels up to Carapito where it is unloaded and is thence transported by narrow gauge railroad, or by tractor to the various well sites. The Standard Oil Company of Venezuela moves its oil from the field at Quirequire by pipeline to Carapito, where oceangoing

tankers can ride at a dock which the Standard has there constructed. However, because of the tremendous rise and fall of the tide in the San Juan River and because of the limitation on depth of water the vessels can be only partly loaded at Carapito. As a matter of fact, an oceangoing vessel can take on about half a cargo at this place. The vessel then moves out into the Gulf of Paria where the balance of the cargo is filled out from a barge anchored in the Gulf which is kept filled by smaller tankers operating through the San Juan River. The Standard is developing a terminal on the Gulf of Paria where tankers will receive their cargo instead of attempting the route up through the San Juan River. The oil will be moved out to the Gulf of Paria terminal in very much the same way and by substantially the same class of ship as is at present being used in Lake Maracaibo to transport the oil to tidewater terminal.

The Quirequire field has been under development for the past four years. This field is located in the northeastern part of the State of Monagas, which is the state east of Anzoategui. It has become a major oil producing field and at present has a production and shipments of about 25,000 bbl. daily. With the completion of the new port on the Gulf of Paria, this production can be largely increased. It is expected locally that the production will be brought up to 45,000 bbl. of crude oil daily as soon as the new line is completed from the field to the tanker loading wharf on the San Juan River at Carapito. This line will be about 18 miles in length. It is anticipated that the terminal will be completed and in operation during February or March of 1934. In addition to the Quirequire field the Standard has drilled a very interesting well at Pedernales, which was recorded as a producer in April, 1933. Another adjacent well is now being drilled.

Breaking into the jungle from the San Juan River at Caripito, a way was hewn about 18 miles southwest to the side of the field. This was about four years ago. Now one goes from the tanker loading terminal at the San Juan wharf by narrow-gauge railroad, a distance of about three miles to Caripito village, adjacent to which are supply houses, a pipeline pumping station and a topping plant of 1,500 bbl. daily capacity, which more than supplies field requirements for gasoline and fuel oil.

A mile farther up the road is the Caripito camp which is on a cleared space of about 375 acres. Here are the official headquarters of the Standard Oil Company in Venezuela, another large brick supply house, homes for employees, dining hall and a club house. Adjoining the club house is a six-hole golf course, studded with palms.

A wide road leads on 15 miles from Caripito camp to the Quirequire camp, which is a replica of the former, and is on a cleared area of similar size. Except by looking into the surrounding jungles it is difficult to visualize the fact that only four years previously forests completely covered these camp sites. Five miles beyond is the final outpost of the Standard camp—the airplane landing field.

On such a trip, from the San Juan River to the air field beyond Quirequire camp, one sees little evidence of the oil field itself. The eight inch pipeline follows the Caripito-Quirequire road and there are two or three derricks, about ten miles apart. But the main field is hidden in the nearby jungle. Nevertheless, immediately north of the highway extending for a distance of about 15 miles are oil well sites and derricks.

In the older portions of the field the oil wells were spaced 300 meters (975 ft.) apart, but the present policy calls for spacing of wells 900 meters (2,925 ft.) apart. Steel derricks 122 ft. in height are employed. Well depths range from 2,200 ft. to 3,200 ft. with the average drilling depth around 2,800 ft. An individual road has to be constructed through the jungle to each well, and the well site, a space about 200 ft., square cleared. Emphasizing the difficulty in the way of development, the field is cut by sharp ridges and valleys, necessitating numerous hills and turns in the roads. Including land cleared for about 60 miles of roadways, it is estimated that over 1,100 acres have been cleared altogether in the development of the Quirequire oil field.

Well depths vary, as already stated, from 2,200 to 3,200 ft. with the shallower wells at the north side of the field. In the proven area ten inch casing is used with a 6⅝ inch oil string, then setting 4¾ inch

*Refinery, pump station and storage tanks of the Standard of Venezuela Caripito field in Monagas, Eastern Venezuela.*

*Caripito camp of the Standard of Venezuela in Eastern Venezuela where a large development is quietly being undertaken.*

flush—joint perforated liner. On the edges of the proven area larger casing is used. Formations consist of shales, limes and conglomerates. They are rather hard but do not require rock bits.

The limits of the Quirequire oil field are regarded as defined in only one direction—to the northward.

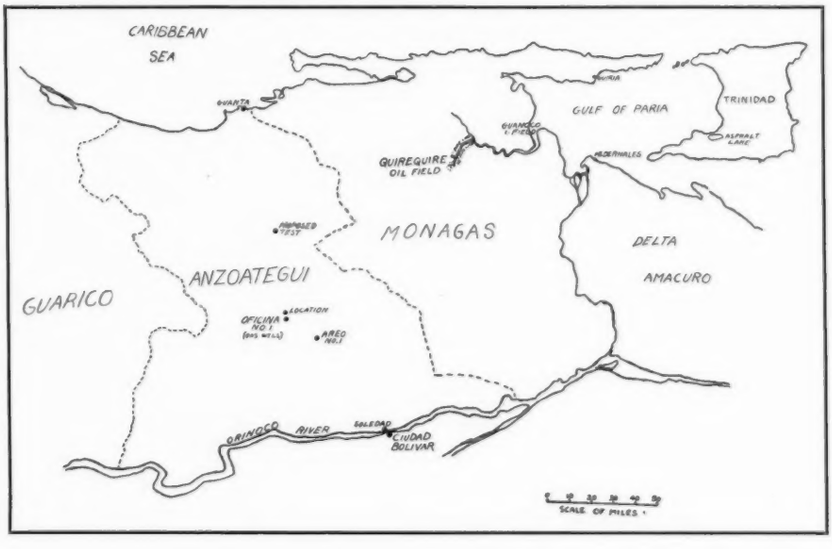
Repressuring is successfully employed in the Quirequire field. Almost 100 percent of the gas from the wells is now used. The ten-inch welded pipeline, which will supplement the older eight-inch line, was completed during January. This will more than double the capacity to ship oil out of the field.

There are nine oil gathering stations in the field, all of which pump direct through the main pipeline into Caripito. There is a main pumping station at Caripito adjacent to the tank farm which forces the oil from the tanks a distance of three miles to the tanker-loading wharf at the San Juan River and into the tankers. This station operates only when tankers are loading.

The geology of the area in which the Quirequire field is located is not clearly defined. Production of oil is from typical shore line formations of Oligeocene age, which dip downward away from the coast mountain range. Several 5,000–ft. wildcat wells have been drilled west and south of Quirequire, but not within 20 miles of the field. These have either been dry or have had only small non-commercial showings. East of Quirequire, however, the Standard Oil Company of Venezuela has a new field, the Pedernales, which is on the shore of the Gulf of Paria, about 75 miles due east. Its third well, Pedernales No. 2, was brought in on April 5, 1933, with a production of 1,500 bbl. of 17 gravity oil a day. Development of this area will be continued.

Exploration of oil concessions in eastern Venezuela has been carried on with the help of aerial photography and geophysical instruments, particularly the latter. A number of companies now have geophysical parties in the field. Geophysical instruments have been used to check up on surface geology. The seismograph and torsion balance have been mainly used, with the torsion balance regarded as of greatest value.

Eastern Venezuela is regarded as having exceedingly favorable prospects for petroleum production. The area from Quirequire southward to the Orinoco and as far eastward as the sea, covered mostly by equatorial swamps and forests, will probably witness great oil activity, while the plains country, or "llanos" appear due for considerable activity from the commencement of the plains just west of Quirequire, as far at least as the Infernito gas seeps in the state of Guarico. These two areas comprise 15,000,000 acres.




*Eastern Venezuela where early petroleum development may be expected*

# World Oil Production—Official Figures for 1933

**All figures furnished direct to WORLD PETROLEUM by Governments, except where otherwise specified**

**(Figures in U. S. Barrels—Conversion ratio 7 bbl. = 1 ton)**

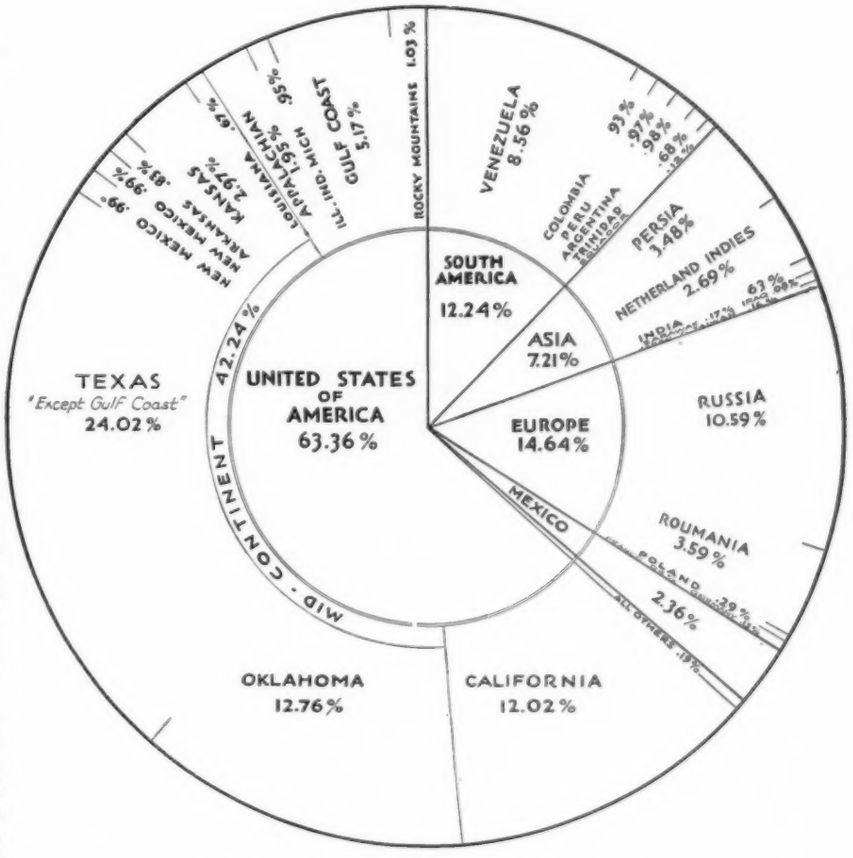
| Country | January 1933 | February 1933 | March 1933 | April 1933 | May 1933 | June 1933 | July 1933 | August 1933 | September 1933 | October 1933 | November 1933 | December 1933 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| United States | 63,998,000 | 61,029,000 | 75,302,000 | 65,313,000 | 84,747,000 | 82,841,000 | 84,387,000 | 85,239,000 | 78,186,000 | 76,017,000 | 69,755,000 | 69,500,000[1] |
| Russia | 10,382,400 | 10,162,600 | 11,003,300 | 11,824,400 | 12,794,600 | 12,489,400 | 11,837,000 | 13,402,200 | 14,340,200 | 14,595,000 | 13,479,200 | 13,400,000[1] |
| Venezuela | 8,750,000 | 9,985,711 | 10,324,328 | 9,340,870 | 9,380,893 | 9,354,387 | 10,197,425 | 10,367,511 | 10,231,410 | 10,852,653 | 10,843,910 | 11,253,704 |
| Roumania | 3,999,898 | 3,661,749 | 4,009,649 | 3,949,001 | 4,104,919 | 4,490,220 | 4,755,600 | 4,562,551 | 4,420,486 | 4,502,127 | 4,000,000 | 4,250,000[1] |
| Persia[2] | 3,563,112 | 2,929,668 | 3,683,386 | 3,984,519 | 4,370,835 | 4,452,000 | 4,648,000 | 4,669,000 | 4,109,000 | 4,549,867 | 4,199,797 | 4,150,000[1] |
| Mexico | 2,889,658 | 2,543,443 | 2,825,021 | 3,011,973 | 2,857,620 | 2,805,353 | 2,950,803 | 2,893,211 | 2,605,840 | 2,429,072 | 2,833,630 | 2,600,000[1] |
| Netherland India | 3,096,051 | 3,031,051 | 3,390,051 | 3,028,639 | 3,357,214 | 3,280,382 | 3,249,428 | 3,172,568 | 3,186,435 | 3,179,043 | 3,127,047 | 3,125,000[1] |
| Colombia | 1,005,353 | 1,035,273 | 1,218,626 | 1,093,410 | 1,169,238 | 1,113,328 | 1,189,655[1] | 1,164,104[1] | 1,085,885[1] | 1,087,397[1] | 999,253[1] | 995,605[1] |
| Argentina | 1,138,500 | 1,153,500 | 1,140,000 | 1,051,000 | 1,210,300 | 1,181,500 | 1,180,000[1] | 1,180,000[1] | 1,180,000[1] | 1,180,000[1] | 1,180,000[1] | 1,180,000[1] |
| Peru | 976,931 | 806,785 | 942,940 | 988,766 | 1,807,565 | 1,750,206 | 1,183,527 | 1,284,726 | 1,035,338[1] | 970,427[1] | 998,066[4] | 1,178,004[4] |
| Trinidad | 815,439 | 778,842 | 839,857 | 834,876 | 816,080 | 772,626 | 759,076 | 780,929 | 755,676 | 818,184 | 788,970 | 799,484 |
| British India | 732,894 | 669,617 | 761,302 | 708,703 | 729,669 | 741,244 | 700,000[1] | 700,000[1] | 700,000[1] | 700,000[1] | 700,000[1] | 700,000[1] |
| Poland | 338,100 | 299,845 | 329,224 | 318,619 | 326,900 | 326,830 | 336,553 | 332,934 | 315,000 | 320,000[1] | 309,624 | 311,500 |
| Sarawak | 180,320 | 194,166 | 214,984 | 196,595 | 203,385 | 184,250 | 196,756 | 194,327 | 182,602 | 186,431 | 179,648 | 175,000[1] |
| Japan and Taiwan[1] | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 | 195,000 |
| Egypt | 136,451 | 126,861 | 131,964 | 124,103 | 138,348 | 137,620 | 136,752 | 143,836 | 133,903 | 125,786 | 128,450 | 127,400[1] |
| Ecuador | 133,912 | 119,345 | 128,504 | 121,647 | 128,226 | 141,640 | 147,889 | 148,467 | 139,826 | 141,379 | 133,591 | 137,654 |
| Canada | 82,778 | 73,087 | 87,218 | 84,974 | 89,754 | 113,447 | 99,510 | 100,602 | 97,342 | 97,132 | 108,304 | 105,000[1] |
| Germany[3] | 130,732 | 121,835 | 141,183 | 129,591 | 134,666 | 130,200 | 141,414 | 153,174 | 155,778 | 160,951 | 157,808 | 157,000[1] |
| Iraq[1] | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 |
| France[1] | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 | 46,000 |
| Others[1] | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 | 36,000 |
| Total | 102,727,529 | 99,099,348 | 116,850,537 | 106,481,686 | 128,744,212 | 126,682,633 | 128,473,388 | 130,866,140 | 123,238,421 | 122,289,449 | 114,299,298 | 114,522,351 |

[1] Estimate. [2] Anglo-Persian Oil Co. figures revised; fuel oil returned to the ground has been deducted. [3] Thuringen estimated 7,000 bbl.; official figure for Prussia. Sakhalin Russian included with Russia. Sakhalin Japanese included with Japan. [4] International Petroleum Company's figures.

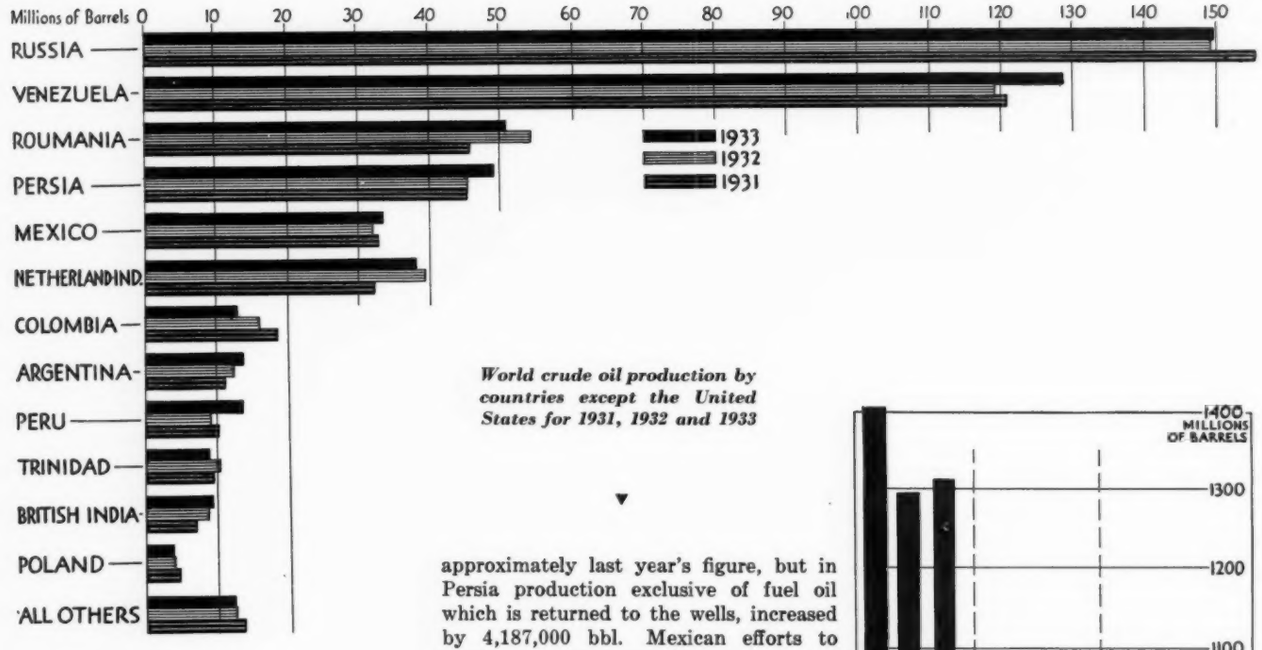
OFFICIAL FIGURES cabled to WORLD PETROLEUM direct from the governments of various oil producing countries indicate a gain in world crude oil production in 1933 of 117,164,354 bbl. over the production in 1932. The United States contributed 111,155,000 bbl. to this increase leaving an increase of only 6,009,354 bbl. for all other countries combined.

Not only did the United States increase production by a considerable figure during 1933 but also improved its relative position, producing 63 percent of the crude produced in the world against 60 percent in 1932. In 1931 the United States produced 62 percent of the world crude output. The increase in U. S. production occured in May when the announcement of the National Recovery Act indicated that the petroleum industry would be subject to some form of government control probably tending to limit output and raise prices. Hence, from May onward there was heavy monthly production which has been reduced slightly during November and December.

Russia was unable to effect the increase in production that her plans for the year called for but due to heavy gusher production starting in May of 1933, the Soviet Union was able to keep crude production at approximately the same figure that had been achieved in 1932. The downward trend from 1931 to 1932 seems therefore to have been arrested. Russia's motives in regard to production are contrary to those of other oil producing nations in




*Analysis of world's crude oil production for 1933: 1,414,-611,944 bbl. converted on the basis of 1 ton = 7 bbl.*




*World crude oil production by countries except the United States for 1931, 1932 and 1933*

that it is the aim of the Soviet industry to increase production as rapidly as possible while all other important producing countries are attempting to curtail production.

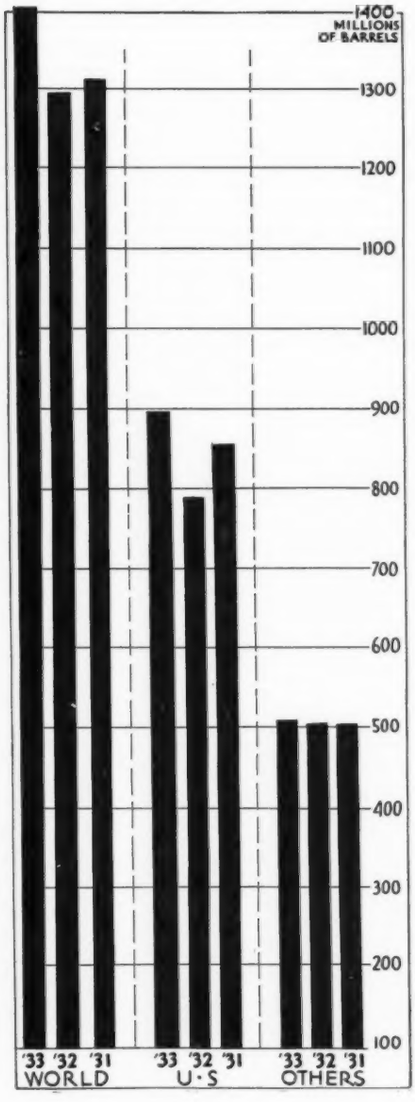
A slight improvement in production in Venezuela is noticeable, amounting to 1,286,000 bbl. above 1932 production. Producing properties in Venezuela are controlled by major companies and no important increase in production may be looked for until an improvement is noticeable in world markets.

Production in Roumania remained at approximately last year's figure, but in Persia production exclusive of fuel oil which is returned to the wells, increased by 4,187,000 bbl. Mexican efforts to regain her former position in the list of oil producing countries resulted in an increase in 1933 of less than half a million barrels over the production of 1932. Production in Netherland India, another locality in which production is controlled by major international companies, decreased by over 1,000,000 bbl. In South America, Colombia reduced production by 3,227,000 bbl., Argentina held production at approximately the same figure as last year and Peru increased by 4,024,000 bbl. No striking increases or decreases are apparent in other oil producing countries.

**Official Crude Oil Production Figures for 1931, 1932 and Preliminary Figures for 1933**

(Barrels of 42 U. S. Gals.)

| Country | Total 1931 | Daily Average 1931 | Total 1932 | Daily Average 1932 | Total 1933 | Daily Average 1933 |
|---|---|---|---|---|---|---|
| United States | 851,081,000 | 2,331,729 | 785,159,000 | 2,145,243 | 896,314,000 | 2,455,655 |
| Russia | 156,342,900 | 428,336 | 149,719,000 | 409,070 | 149,711,000 | 410,167 |
| Venezuela | 120,343,104 | 329,707 | 119,596,512 | 326,766 | 120,882,802 | 331,186 |
| Roumania | 46,333,945 | 126,942 | 50,491,205 | 137,954 | 50,706,200 | 138,921 |
| Persia | 40,253,486 | 110,283 | 45,122,455 | 123,285 | 49,309,184 | 135,093 |
| Mexico | 33,038,853 | 90,517 | 32,802,285 | 89,624 | 33,245,624 | 91,084 |
| Netherland India | 32,818,346 | 89,913 | 39,584,027 | 108,153 | 38,222,879 | 104,720 |
| Colombia | 18,237,190 | 49,965 | 16,384,956 | 44,768 | 13,157,127 | 36,047 |
| Argentina | 11,709,759 | 32,081 | 13,166,900 | 35,975 | 13,954,800 | 38,232 |
| Peru | 10,102,116 | 27,677 | 9,899,266 | 26,026 | 13,923,281 | 38,146 |
| Trinidad | 9,743,763 | 26,695 | 10,023,780 | 27,387 | 9,560,039 | 26,192 |
| British India | 7,830,101 | 21,452 | 8,600,312 | 23,500 | 8,843,429 | 24,228 |
| Poland | 4,397,760 | 12,048 | 3,905,230 | 10,670 | 3,865,129 | 10,589 |
| Sarawak | 3,338,472 | 9,146 | 2,274,043 | 6,213 | 2,288,464 | 6,270 |
| Japan and Taiwan | 1,884,285 | 5,135 | 2,340,000 | 6,393 | 2,340,000 | 6,411 |
| Egypt | 1,845,938 | 5,057 | 1,742,370 | 4,760 | 1,591,474 | 4,360 |
| Ecuador | 1,750,633 | 4,796 | 1,573,857 | 4,300 | 1,622,080 | 4,444 |
| Canada | 1,583,339 | 4,337 | 1,054,373 | 2,880 | 1,126,100 | 3,085 |
| Germany | 1,778,602 | 4,873 | 1,824,019 | 4,983 | 1,714,332 | 4,697 |
| Iraq | 1,200,000 | 3,300 | 1,200,000 | 3,300 | 1,200,000 | 3,288 |
| France | 512,862 | 1,405 | 552,000 | 1,508 | 552,000 | 1,515 |
| Others | 338,700 | 930 | 432,000 | 1,180 | 432,000 | 1,184 |
| Total | 1,356,465,154 | 3,716,343 | 1,297,447,590 | 3,544,940 | 1,414,611,944 | 3,875,648 |




*Comparison of crude oil production in the United States, all other countries and total for the world during 1931, 1932 and 1933*

# Refining Reflects Fluctuations of 1933

***Continued Increase in Cracking Output Results from Depressed Fuel Oil Prices and Octane Emphasis. Production of Straight Run Indicates Uneconomical Condition Early in 1933.***

CONTINUOUS overproduction, coupled with a general breaking down of price structure, high taxes, and tax evasion all combined during the first half of 1933 to produce a most deplorable state of affairs in the U. S. petroleum refining industry prior to the adoption of a Code of Fair Competition for the oil industry. The advent of the N.R.A., with its attempt to control production of crude oil, and enforce certain general rules designed to eliminate unfair competition accompanying a slow but evident improvement in general business conditions led to very considerable improvement in the results of operations of most U. S. oil companies during the second half of the past year.

The accompanying tables, based on figures from the Bureau of Mines Reports, show a number of interesting trends in the production of gasoline for the year. Production of straight run and cracked gasoline for the first eleven months of 1933 exceeded that of the same period of 1932 by 11,351,000 bbl. The extreme fluctuation in production for the year is the matter of greatest interest since it reflects the character and unstable condition of the industry at the time.

For the first five months of 1933, crude runs to stills ran slightly below the corresponding period in 1932, but even during this period, production exceeded demand with consequent resulting low prices. The effect of the proposed code, which was finally adopted in September, first evidenced itself during June. When it became apparent that some measure of government control would be instituted, with the probability that this would result in an increase in prices, the natural impulse to speed up production was inevitable. The result was an enormous rise in crude runs to stills during the period from June to September, reaching a high point of 79,525,000 bbl. in July, an increase of 8,070,000 bbl. over the same month in 1932. With the adoption of the code, a marked subsidence in production can be noted, with a general trend toward stabilization.

In connection with cracking operations, a number of interesting points are evident from an inspection of the tables. Despite continued curtailment of business conditions in general, and the unstable condition of the oil industry in particular, expansion in the cracking field has gone steadily forward. The total of 179,409,000 bbl. of cracked gasoline for 1933 is an increase of 10,379,000 bbl. over the 1932 gasoline production by cracking units.

A number of reasons evidently combined to encourage this increase in cracking production. There is, of course, the growing demand for "Octane" as the important characteristic of gasoline. This applies even to the lower grades of gasoline as indicated by the generally increasing anti-knock rating of third grade fuel. This trend corresponds with the increase in compression ratios of automobile engines that has been especially noticeable in the past few years. In addition to these factors the depressed condition of the fuel oil market made it economically feasible for the refiner to resort to cracking.

An inspection of the figures on straight run gasoline shows an unusual trend also. Whereas in 1932, the peak in straight run production was reached in April, with subsequent decline towards the end of the year, in 1933 the condition was reversed and from a low point of 13,705,000 bbl. in February, production steadily rose to a maximum of 18,168,000 bbl. in September. It is of interest to note that although cracking operations showed a sharp decline between May and July, the production of straight run gas increased unabated during the same period.

Here again several reasons combined to produce this condition. During the three months prior to the adoption of the code, many of the small refiners who did not have cracking facilities were operating at maximum capacity, building up a large reserve in anticipation of rising prices. The fact that straight run production shows a very marked decline following the adoption of the code in September bears this out. There is also the possibility that some of the refiners took on commitments for fuel oil of various kinds and were obliged to run crude oil for this purpose, resulting in an abnormal increase in straight run fuel being thrown on the market. A less important reason may be that the increase in demand for lubricating oils contributed to the greater production of topped fuel.

There seems to be a fair possibility that the upward trend in the profits from refining operations that commenced during the second half of the past year may continue in 1934. Despite the many differences of opinion regarding the code and the difficulty experienced in bringing some producers in line with production allowable, considerable progress has been made towards stabilization of the industry.

Continued progress in cracking and further expansion in cracking facilities

**Runs to Stills, Topping and Cracking Production 1932 and 1933**

(Figures in thousands of barrels of 42 U. S. gallons)

| | Straight Run Production | | Cracking Production | | Runs to Stills | |
|---|---|---|---|---|---|---|
| | 1932 | 1933 | 1932 | 1933 | 1932 | 1933 |
| January | 16,629 | 15,118 | 13,981 | 13,128 | 69,715 | 66,093 |
| February | 15,780 | 13,705 | 13,598 | 12,211 | 63,814 | 61,042 |
| March | 16,488 | 16,087 | 13,381 | 13,644 | 68,502 | 67,984 |
| April | 17,675 | 15,820 | 13,420 | 14,258 | 71,131 | 68,822 |
| May | 17,385 | 16,470 | 15,090 | 16,400 | 74,669 | 74,340 |
| June | 16,775 | 17,534 | 14,444 | 15,855 | 72,327 | 74,619 |
| July | 16,428 | 17,704 | 15,205 | 17,012 | 71,455 | 79,525 |
| August | 16,301 | 17,987 | 14,442 | 16,478 | 67,271 | 79,151 |
| September | 14,906 | 18,168 | 13,540 | 16,004 | 63,913 | 75,316 |
| October | 16,615 | 17,345 | 14,003 | 16,001 | 66,698 | 75,461 |
| November | 15,443 | 14,798 | 14,240 | 15,393 | 65,504 | 68,461 |
| December* | 15,312 | 12,800 | 13,686 | 13,025 | 65,998 | 67,230 |
| | 195,737 | 193,536 | 169,030 | 179,409 | 819,997 | 858,044 |

* Estimate based on weekly reports: all other figures are as reported by U. S. Bureau of Mines.

are inevitable, but in all probability it will be of a nature different from that which has taken place heretofore. The consensus among automotive engineers is that any further great increase in octane rating is unlikely and that the well-known "race for octane" has reached its climax. The refiner will now be able to concentrate on what for him is the more important problem of economic production; that is, cracking to get the maximum yield from a given amount of crude charging stock.

With the adoption of the code and the increased possibility of price stabilization, it is becoming increasingly evident that the refiners who are going to survive are those who can operate the most efficiently and economically, not only in cracking but in all the other refining operations. It is going to be necessary for the refiner to determine what Mr. Kessler referred to as "legitimate" demand products, then find the most efficient process of producing these products and finally conduct his operations with the strictest economy. With crude oil prices ranging around $1.00 per barrel and gasoline price less than five cents per gallon the refiner is faced at the beginning of 1934 with the problem of obtaining a high yield of motor fuel—which calls for efficient cracking—and of supporting the fuel oil market at a point that will justify remunerative prices.

▼

# Recent Improvements in Electrical Drilling

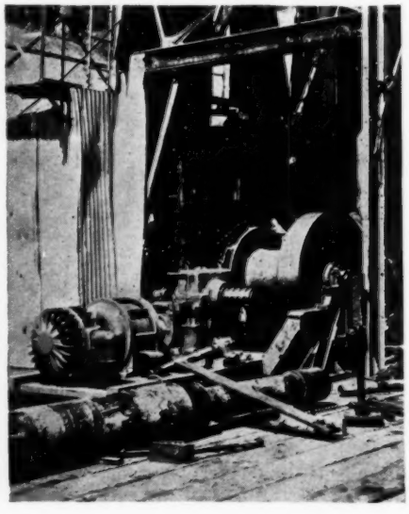
***Greater Depth of Drilling Requires Heavier Rigs and More Power. A Summary of the Electric Drilling Situation by W. G. Taylor of the General Electric Company Indicates Possible Economies***

IT IS SURPRISING to anyone not in constant touch with field operations to find how rapidly advances in the art of rotary drilling have been made during recent years in the oil fields of the United States. Extensive changes in practice as well as in equipment have taken place, and these have been brought about by the new problems in deep well drilling. With 7,000 and 8,000 ft. wells no longer uncommon, fields called deep territory a few years ago are now classed as shallow. Ten-thousand-foot wells have become a reality. To meet the conditions in drilling to such depths, heavier and better rigs and more power have been required, and the equipment manufacturers have been keeping pace very well with these requirements.

Electric power has played a successful part in this development. Its use has been stimulated by the readiness with which larger motors and adequate control equipment can be produced, as well as by the availability of plenty of electric power nearly everywhere in the fields. These features alone, however, do not explain fully why so many drilling contractors and oil companies favor electric drilling rigs. The principal reason is that they save them money.

It is characteristic of the Mid-Continent fields that most of the drilling is done by contract. The contractor furnishes the power equipment and the oil company holding the lease pays the bills for power, or for fuel and water. On the other hand, in California very little drilling is done by contract. In both places, however, considerable electric power is used for drilling, and probably the Mid-Continent contractors have been using it the most. There must, of course, be a good reason for this, as a contractor is likely to have an initial preference for equipment with which he can drill wildcat wells out of reach of central station power systems.

*Automatic weight control with electrical drilling insures straighter holes.*



The saving which the contractor can make is obtained in several ways. Every time he moves his rig to a new location, he finds that instead of handling approximately 26 truckloads of material he can move an electrically driven rig in about 19 loads. Obviously, this means a considerable saving in time as well as in expense. Then, before drilling is started on the next location, the equipment is overhauled and put into first-class condition again by making needed repairs and replacements. The big expense item in this work is generally about $800 for reconditioning, but with electric drive this expense almost entirely disappears.

In rigging up at the new location, electric drive requires a couple of days less time and about $250 less in fittings, and it results in saving quite a number of smaller miscellaneous costs which otherwise would swell the total appreciably.

With all these items taken into consideration, the contractor often has no difficulty in accounting for a saving on each well as high as $1,500.

The other items of importance are the electric power bills. These are paid by the oil company and are the latter's principal source of interest in electric power for drilling done by contract. That they are of real interest is indicated by the fact that in the 4,000-foot territory of the Seminole Field, for example, they have shown a saving over fuel and water of about $3,500 per well. This is nearly a dollar a foot.

These figures make it evident that both the contractor and the oil company can

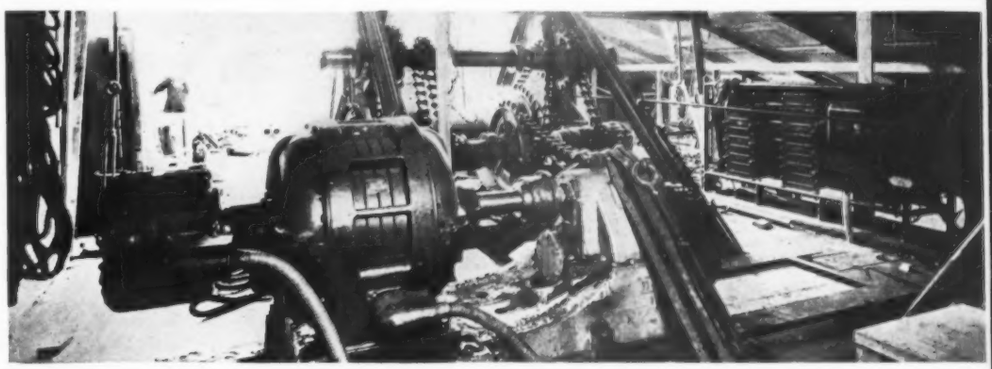
find considerable of interest in the use of electricity for rotary drilling.

There has been an interesting increase in the sizes of motors used on rotary rigs, in a way paralleling the increase in maximum depth drilled. Several years ago when the first installations were made, a 75 h.p. motor on the drawworks could, under certain limitations, do the work required, and a 100 h.p. motor was ample without any limitation. Two-speed and light three-speed drawworks were then the rule. It was not long, however, before the demand extended to 125 h.p. and 150 h.p. motors. Now, on the modern heavy four-speed drawworks, there are many 200 h.p. installations, a few 250 and 300 h.p., and even larger sizes have been seriously considered. It is a question, however, whether such further increase in motor capacity under present methods of operation can be justified from the economic standpoint by the small gain obtainable. The actual drilling load does not require the larger capacity and the only gain would be in the speed at which heavy strings of drill pipe could be brought out of the hole. When it is considered that the possible gain in time is measured in minutes rather than in hours, and that a similar saving is usually possible at much less expense by the reduction in time lost by the average drilling crew, there is reason to believe that larger motors under present conditions are scarcely warranted.

Mud-pump motors have undergone an increase in capacity to correspond with the larger pumps now employed, and in many cases it is possible to use duplicate motors for the drawworks and pumps. Thus the spare pump motor becomes also a spare for the drawworks, which is additional insurance against a shutdown.

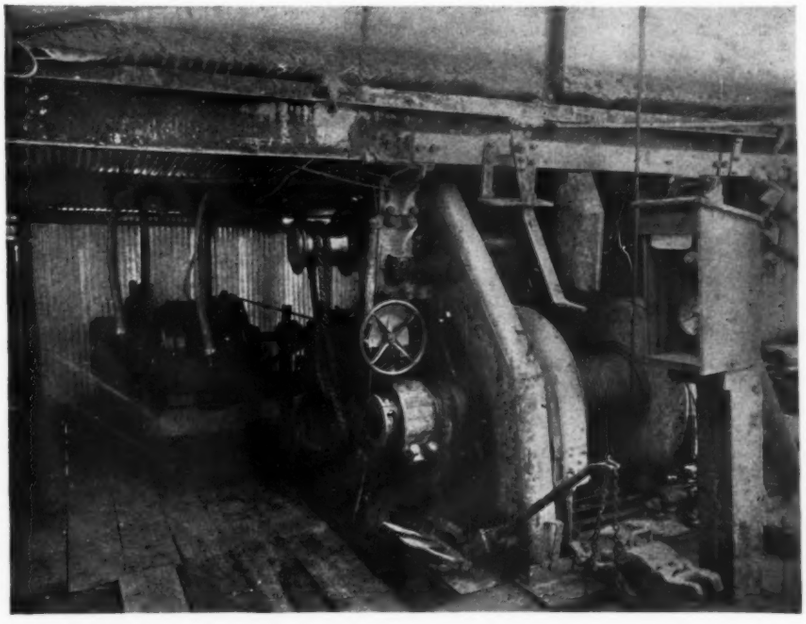
The secret of the flexibility with which operations may be performed with the electric drilling rig lies largely in the design of the control equipment for the motor. Magnetic control as now used is inherently the most flexible and can be designed readily to accomplish automatically almost any purpose desired. The automatic features provided on modern drilling control and its ability to give the speed control wanted and to stand up well under all kinds of punishment largely account for its success.

The possibilities of electric control are emphasized by some of the more modern developments in equipment for rotary drilling. Automatic feed by electric control of the weight on the bit has been demonstrated as a very practical accomplishment, and the weight is held constant with far greater accuracy than is attainable by hand feed. The value of this lies in the degree of straightness with which the hole can be drilled. It is now quite generally recognized that it is the failure to maintain constant the weight on the bit that often results in deflection of the hole from the vertical, especially when drilling in tilted formations.



*Heavy electric motor demonstrating its efficiency as a power factor on the derrick floor.*

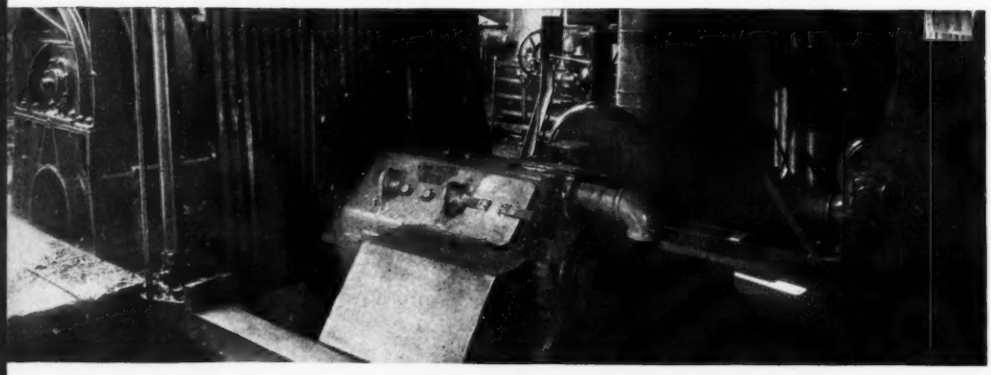
*440 Volt G. E. induction type motor for rotary drilling developing high horsepower at 750 R. P. M.*



Careful attention to drilling technique by some oil companies and contractors makes it possible for their drillers to employ judiciously chosen drilling speeds and weights on the bit for various formations, and, by very close attention to the job, to regulate the weight sufficiently closely to obtain a reasonably straight hole. It is not likely, however, that as fast progress will be made in this way as is possible with electrically controlled weight on the bit. There are several reasons for this, one being that it is a human impossibility to hold a given weight as constant by hand adjustment of the drawworks brake as can be done electrically by the method developed, and if the weight selected is the one which will drill a straight hole the fastest, then the more nearly constant the weight is held, the faster will the hole be drilled. Another reason is that toward the end of the day the driller becomes fatigued due to the very tiring effect of constantly watching his gauge and frequently manipulating his brake, and so he cannot be depended upon to do as good a job as when he started work at the beginning of his tour.

Other and even more important reasons why automatic weight control results in

faster drilling are that the wear on the bit is more uniform, resulting in longer service and therefore requiring less frequent changing of the bit, and that it is not necessary to raise the bit off bottom during change of tours, which often means a loss of actual drilling time of from ten minutes to half an hour, two or three times a day. In other words, with automatic weight control the bit is kept on bottom longer in every twenty-four hour period and therefore can make more hole per day than by hand feed, even if it should happen that the drilling rate in feet per hour is no greater.



*A lighter 230 volt D. C. motor turning over 675 R. P. M. A similar motor may be seen in the right background.*

The automatic weight control equipment in the form in which it has been developed has other useful features which are of even greater value and importance than the mere ability to hold the weight on the bit constant. The equipment is a complete hoist unit which is first used at the location for rigging up, and it can be very quickly and cheaply installed without the necessity of concrete foundations. While the well is being drilled, the unit serves as a standby hoist capable of removing promptly the drill pipe from the hole in case of trouble of any kind with the drawworks or its drive. For this purpose it is absolutely dependable, as it does not stand idle waiting for the emergency, and so is never found to be inoperative when it is most needed. It is functioning at all times as an automatic feed during drilling, and therefore as a standby is known to be in operative condition whenever the emergency arises.

Another valuable and important feature of the automatic equipment is its behavior in case of a fatigue fracture of the drill pipe. It will not spud the fish and drive it over into the side of the hole, making its recovery questionable, but it leaves it standing up in the hole so that it is usually recovered on the first trial in the time required to make a round trip with the drill pipe.

Still another valuable feature is the use of the automatic equipment in delicate fishing jobs or in pulling stuck drill pipe or casing. It may be set to pull a fish at any desired rope tension and will automatically follow it up the instant the fish starts. The same results are obtained in pulling drill pipe or casing. As it is very sensitive to slight changes in drilling-line tension, it is particularly useful in this respect on delicate fishing jobs when very sensitive and accurate control is necessary.

Thus it may be seen that an automatic equipment of the weight control type introduces several new economies in rotary drilling operations.

Another electrical development is the use of direct-current motors for rotary rig drive, with generator-voltage control to govern the speed, usually known as the Ward-Leonard system. This development originated from the desire of oil companies to reduce the high cost of power, without sacrificing flexibility of operation, for wildcat drilling in locations beyond economical reach of any electric power system. The direct current drive, obtaining power from portable engine-driven generators, not only fulfills these requirements in wildcat work, but is attractive for the same reasons in fields where the generators may be motor-driven and thus run from alternating-current central-station power.

There are four features of this scheme which make it excellent for this class of work.

1. Power may be developed to the limit of the capacity of the engine but the electrical design automatically prevents the engine from being overloaded and thus stalled. The motor always stalls first and the engine is thus protected.
2. The electrical equipment is in effect an "electrical gear-shift" between the engine and the rig and enables heavy torques to be developed by the motor at low speeds or when stalled, without overloading the engine, and high speeds to be obtained with light loads.
3. No great excess in engine and generator capacity is necessary to enable the motor to develop its maximum torque, as would be the case if alternating current equipment were used.
4. Resistor losses are very small when operating the motor at reduced speed.

No elaboration of these points is necessary to show how they will result in more economical operation and increased flexibility of control without annoying delays and shut-downs. The generator voltage control system is unexcelled for heavy duty, having been used for many years on reversing blooming mills in the steel industry, for mine-hoist drive, and for electric shovels. The characteristics of the equipment which has been developed for rotary drilling rigs are very similar to those designed for electric shovel work, with sufficient modification to meet drilling requirements.

Every oil company and drilling contractor to whom electric power can be made available should make a thorough analysis of its possibilities for drilling under his own particular field conditions, and a comparison with costs and operating results obtained with other forms of power. This will not only disclose the extent of possible economies but is likely to reveal other advantages of electric drive which have not been touched upon here, but which, in the aggregate, will have a material effect in reducing either directly or indirectly the costs of operation.

▼

FRANK A. HOWARD, president, Standard Development Company (S. O. N. J.) has been cruising in the Caribbean on the S. S. SATURNIA.

▼

G. V. ACKERMAN recently arrived in the United States, and has taken charge of the petroleum division of the Amtorg Trading Company. Mr. Ackerman spent five years in Italy and several years in Germany as a representative of the Soyouznefteexport of Moscow. He succeeds A. A. Santalov, who returned to Moscow on the S. S. BREMEN.

▼

CAPTAIN T. RIEBER, vice president in charge of overseas marketing of The Texas Company, recently sailed for Europe on the S. S. ILE DE FRANCE and will be away about six weeks. The Texas Company does an extensive business in European countries.

# United States

| | Daily Crude Oil Production bbl. | Daily Runs to Stills bbl. | Motor Fuel Stocks bbl. | Imports for week bbl. | California Shipm. East for week bbl. |
|---|---|---|---|---|---|
| Week Ending Dec. 30 | 2,174,500 | 2,275,000 | 51,950,000 | 991,000 | 590,000 |
| | 432,500* | | | | |
| Week Ending Jan. 6 | 2,165,500 | 2,115,000 | 52,100,000 | 912,000 | 457,000 |
| | 410,000* | | | | |
| Week Ending Jan. 13 | 2,311,250 | 2,258,000 | 52,530,000 | 778,000 | 623,000 |
| | 381,500* | | | | |

**Underlined figures indicate improvement in statistical position—decrease in production, runs to stills, gasoline stocks and imports.**
*** Indicated reported production of the Rusk-Gregg field, East Texas. Unreported production in the Rusk-Gregg field is currently estimated to vary between 25,000 bbl. and 40,000 bbl. per day.**

## Exports Increase

DURING NOVEMBER, 1933, total imports of all petroleum products into the United States increased slightly to 3,210,000 bbl., 107,000 bbl. per day, as compared with 2,858,000 bbl., 92,000 bbl. per day, imported in the preceding month. During November, therefore, the importers continued to import within the limit of 108,400 bbl. per day set by the Federal Petroleum Administrator, Harold L. Ickes.

Exports of all petroleum products, including motor fuel, in November, 1933, continued at a very high level reaching 9,655,000 bbl., as compared with 10,440,000 bbl. exported in October, 1933; and 36.2 percent above the total exports in November of 1932. Motor fuel exports increased in November, 1933, to 2,905,000 bbl. as compared with 2,641,000 bbl. exported in October, 1933, an increase of 10.0 percent; and 21.7 percent above motor fuel exports in November of 1932. Exports of crude oil from the United States dropped somewhat during November, 1933, to 3,305,000 bbl., as compared with 3,888,000 bbl. exported in the preceding month, but still constituted 34.25 percent of the total exports of all petroleum products.

The United States dollar, while not officially stabilized, fluctuated within a narrow range during late December, 1933, and first half of January, 1934, and was quoted at around 64 cents in terms of gold currencies. On January 15 President Roosevelt requested from Congress the power to make periodic revaluation of the dollar within the range of 50 to 60 percent of its present gold content, stating that he does "not believe it desirable in the public interest that an exact value be now fixed." Simultaneously, and effective January 16, the Secretary of the Treasury raised the price of newly mined gold from $34.06 to $34.45 an ounce, thus bringing the value of the dollar down to 60 cents.

This devaluation has been and is an important factor in bringing about the increased shipments of petroleum products from the United States that has taken place in recent months.

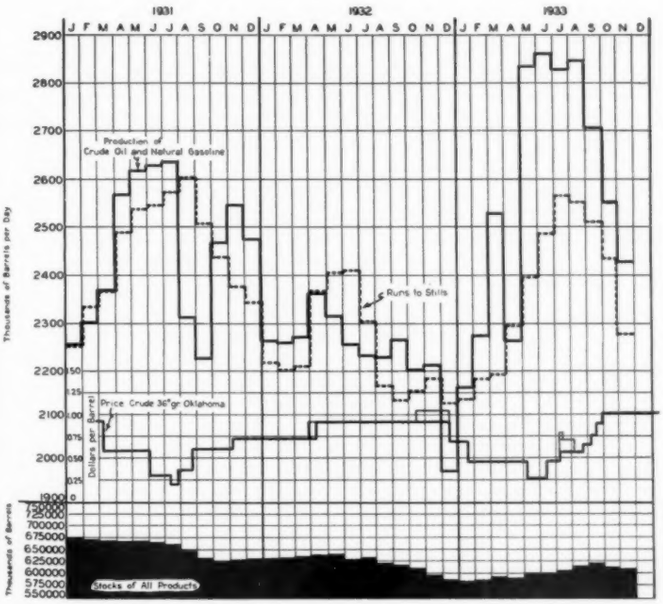
## Refinery Runs Reduced

CRUDE OIL and natural gasoline production during December, 1933, averaged about 2,430,000 bbl. per day, unchanged from the preceding month; 420,000 bbl. per day under the production during the May to August, 1933, period, but still 460,000 bbl. per day in excess of crude oil and natural gasoline production during December of 1932. Crude oil and natural gasoline production further declined late in December, 1933, and early in January, 1934, to about 2,275,000 bbl. per day, or to within the federal quotas set by the Petroleum Administrator. Natural gasoline production in the United States approximates 100,000 bbl. per day, and is not included in the federal allowables.

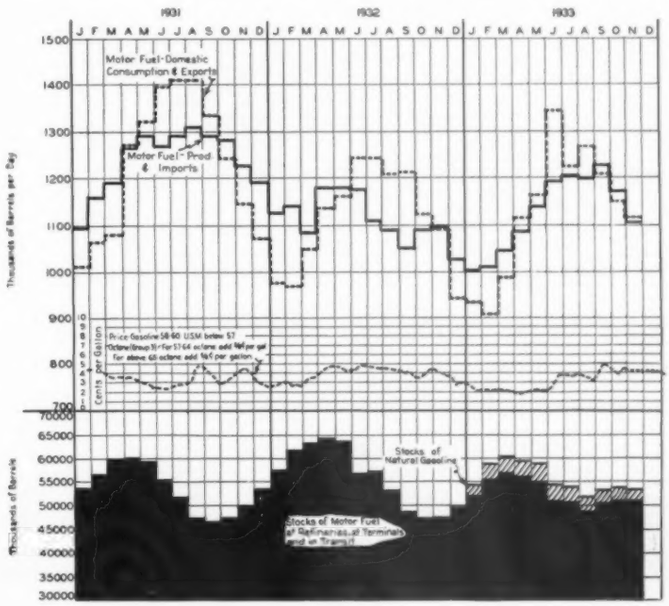
Total stocks of all oils decreased by 7,918,000 bbl. during November, 1933, to a total of 605,379,000 bbl. indicating a daily gross decline in stocks of 264,000 bbl.

Considerable progress was made early in January, 1934, in reducing the crude oil runs

*U. S. Production, runs to stills and price of crude oil in relation to stocks of all petroleum products.*


1931
1932
1933
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
Thousands of Barrels per Day
Production of Crude Oil and Natural Gasoline
Runs to Stills
Price Crude 36° gr. Oklahoma
Dollars per Barrel
Stocks of All Products
Thousands of Barrels

*U. S. consumption and exports, production, imports and prices of motor fuel in relation to motor fuel stocks.*


1931
1932
1933
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
Motor Fuel-Domestic Consumption & Exports
Motor Fuel-Prod & Imports
Thousands of Barrels per Day
Cents per Gallon
Stocks of Natural Gasoline
Stocks of Motor Fuel at Refineries, at Terminals and in Transit
Thousands of Barrels

to stills, which averaged but 2,115,000 bbl. per day for the week ending January 6, the lowest figure for runs to stills that has been achieved in several years, and a most encouraging economic development, if sustained.

## Motor Fuel Demand Steady

INDICATED domestic demand for motor fuel during November, 1933, averaged 1,009,000 bbl. per day, a decline of 5.17 percent under the daily average during October, 1933; 1,300 bbl. per day above the domestic motor fuel consumption in November of 1932, an increase of 0.13 percent; but 44,200 bbl. per day under the domestic motor fuel consumption in November of 1931, the peak year, a decline of 4.19 percent. The domestic motor fuel demand thus continued at about the levels of 1932/33 winter season, but it is confidently anticipated that the domestic consumption will show definite improvement early in 1934 as compared with the corresponding months of 1933. The NEW YORK TIMES weekly combined business index maintained the recent gains, and stood at 78.5 in the week ending January 6, 1934; or at a level about 10 points above the 1932 average.

The daily rate of exports of motor fuel averaged 97,000 bbl. in November, 1933, 14.1 percent above the exports in the preceding month; 22.0 percent above the exports in November of 1932; but 22.3 percent under November of 1931.

Total daily demand for motor fuel in November, 1933, therefore was 1,106,000 bbl.; an increase of 1.73 percent as compared with the total daily demand in November of 1932; but 6.11 percent under November of 1931, the year in which motor fuel demand was at peak.

On December 1, 1933, motor fuel stocks at refineries, terminals and in transit amounted to 53,557,000 bbl., a decrease of 92,000 bbl. as compared with stocks on hand on November 1, 1933, indicating that during November motor fuel demand exceeded supply by 3,060 bbl. per day.

## Motor Fuel Prices Break

DURING the first half of January crude oil prices were maintained, but motor fuel prices broke east of the Rocky Mountains, carrying down both refinery and natural gasoline quotations. During the second half of December and early in January retail gasoline markets have been locally unsteady in many sections of the United States, but until January 8 the major companies confined their price reductions to the affected areas only. The first general cut in tank wagon/service station prices for motor fuel was announced on January 3 when the Sinclair Oil Company reduced prices of third grade gasoline 1 cent a gallon in the New York City metropolitan area; the reduction was met by all major marketers on January 4, the Sun Oil Company cutting the price of its only grade 1½ cents a gallon. On January 8 the Standard Oil Company of New Jersey and its southern subsidiary, the Standard Oil Company of Louisiana, reduced prices on all grades of motor fuel throughout their respective marketing territories.

The break in motor fuel prices announced on January 8 amounted in the Eastern territory to 1.2 cents a gallon for tank wagon/service station quotations and to 0.5 cents a gallon in tank car postings; and in Southern territory ranged up to 1.6 cents a gallon for tank wagon/service station quotations and up to 2.1 cents a gallon in tank car postings. On January 9 the Standard Oil Company of New York (Socony-Vacuum) posted reductions of 1 cent a gallon in tank wagon/service station prices throughout New York and New England. On January 9 service station prices in New Orleans broke 3 cents a gallon to 16 cents per gallon for regular grade, all taxes included. On January 10 the Sun Oil Company and the Standard Oil Company of New Jersey further extended the reduction in parts of the state of New Jersey from 0.8 to 1.0 cents a gallon. The disturbance in U.S. markets was carried across the border into Canada, and in Toronto on January 12 motor fuel prices tumbled from 27.5 cents per gallon to 21.5–22.5 cents, including the 6-cent tax. Late in December the price "wars" on the Pacific Coast were at least temporarily terminated when on December 27 the Standard Oil Company of California, followed by all major and independent marketers, advanced all grades of motor fuel 2 cents a gallon in California, and 0.5 cents a gallon in the Northwest. Service station prices per gallon for motor fuel, regular grade and including all taxes, in representative districts in the middle of January were: 15.5 cents in New York City; 16.0 to 17.3 cents in Chicago; 17.5 cents in Ohio; 19.0/19.5 cents in Los Angeles/San Francisco; 18.0 cents in Oklahoma (14 cents in St. Louis); and 27.0 cents in Montreal, Canada (22.5 cents in Toronto) with 2-cent differential for the premium grade.

Refinery gasoline quotations in Mid-Continent districts weakened around ½ cent per gallon for the third grade product, but remained fairly steady for higher grades. On January 15 refinery gasoline was quoted at 3½–3¾ cents per gallon for 56–60 U.S.M. grade, 59.9 and below octane rating in Group 3, Oklahoma market; 60 to 64.9 octane rating, U.S.M., brought 4¼–4½ cents per gallon; and 65 and above octane rating, U.S.M., commanded 4⅝–5 cents per gallon. On the East Coast, at Bayonne, the U.S.M. grade, 60 to 64.9 octane rating, was quoted at 5¾–6 cents per gallon (3.46 cents gold *). Gulf Coast prices for export on January 15 were weaker at 5–5¼ cents per gallon (3.0 cents gold *) for 58–60 U.S.M. grade.

Natural gasoline prices further extended their December break and on January 15 were quoted at 2⅝–2¾ cents a gallon for grade 26–70 in Oklahoma and North Texas and at 3 cents in North Louisiana, or fully 2½ cents a gallon below the recent November 1933 peak prices.

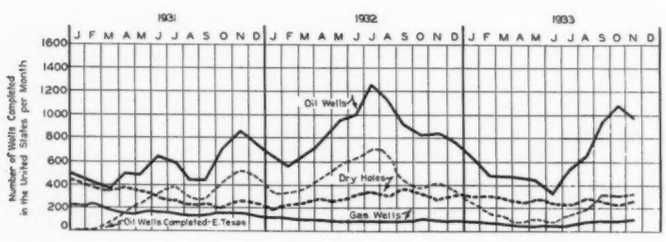
Kerosene prices remained barely steady during early January and on January 15 grade 41–43 w.w. was quoted at 3–3¼ cents a gallon in Group 3, Oklahoma market (2⅞–3 cents in Chicago); and at 5¼–5½ cents a gallon (3.15 cents gold *) on the East Coast at Bayonne. Gulf Coast price for export remained unchanged at 4¼ cents per gallon (2.55 cents gold *) for 41–43 p.w. grade.

Prospects for the future course of prices for petroleum products brightened appreciably in the latter half of January as a result of Secretary Ickes' announcement of the acceptance of a modified form of the purchase and marketing agreement. The constructive features in addition to this announcement included the reduced crude oil production, the reduced crude oil runs to stills, the increased export demand and the extended cold weather through northern United States with the resulting large demand for fuel oil; the destructive elements included the continued dumping on the Mid-Continent and on the Eastern markets of the cheap East Texas gasoline, and the uncertainty as to the effectiveness of the federal control measures as applied to the oil industry. While the constructive factors now far outweigh the destructive, the latter have been and are currently sufficient to throw on the markets enough cheap products to unbalance the whole carefully built, but very fragile, price structure.

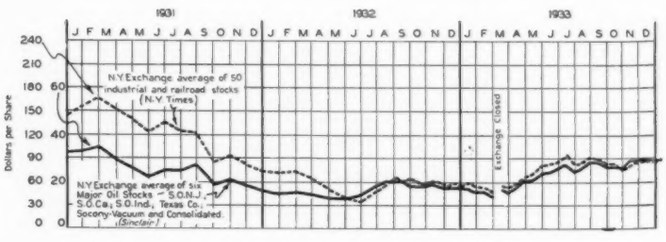
The Federal Administration which has so far tended toward a vast number of committees and sub-committees rather than a single

*U. S. dollar at 40 percent discount.

*U. S. drilling; comparison of oil wells, dry holes, and gas wells.*




*Six major oil stocks in relation to 50 industrial stocks on the New York Stock Exchange.*



## Crude Oil Prices

(Dollars per barrel)

| | | Effective Sept. 29 1933 | In Terms of Gold at 40% Discount |
|---|---|---|---|
| Oklahoma, North Texas and Texas | 28 deg. | $0.84 | $0.50½ |
| | 36 deg. | 1.00 | 0.60 |
| | 40 deg. top | 1.08 | 0.64¾ |
| East Texas | flat | 1.00 | 0.60 |
| West Texas | flat | 70–75 | 0.43½ |
| Gulf Coast | 25 deg. | 0.94 | 0.56½ |
| | 30 deg. | 1.04 | 0.62¼ |
| | 34 deg. | 1.08–1.12 | 0.66 |
| | 40 deg. top | 1.12–1.14 | 0.67¾ |
| Conroe | 36 deg. | 1.11 | 0.66½ |
| | 40 deg. top | 1.19 | 0.71¼ |
| Gray County, Texas | 40 deg. top | 0.91 | 0.54½ |
| Smackover, Ark. | flat | 0.70 | 0.42 |
| Rocky Mountains: | | | |
| Salt Creek | 36 deg. | 1.00 | 0.60 |
| Elk Basin | flat | 1.18 | 0.70¾ |
| Pennsylvania: | | | |
| Bradford Distr. | flat | 2.45 | 1.42 |
| Eureka Lines | flat | 2.07 | 1.24 |
| Mt. Pleasant, Michigan | flat | 1.02 | 0.61¼ |
| | | Effective Sept. 6 1933 | |
| California: | | | |
| Santa Fe | 34 deg. | 1.19 | 0.71½ |
| Kettleman Hills | 39 deg. | 1.11 | 0.66½ |

and efficient control agency seems now to be concentrating control within the Petroleum Administrative Board, and correspondingly limiting the functions of the so-called cooperative bodies.

## Federal Control Developments

DESPITE THE great pressure of current problems of vast national importance, including the expenditure of billions of dollars of federal relief and the currency situation, the federal government through Secretary of the Interior Harold L. Ickes found time to modify and accept the purchase plan for distress gasoline and the marketing code.

Modified approval of the Purchase and Marketing Agreements was given by Secretary Ickes on January 20 following careful study and revision of some of the provisions of the agreement as originally submitted. The agreements were said to have the approval of over 85 percent of the refining industry in the United States and that eventually not less than 95 percent of the refining industry would sign the agreement which had the recommendation of the Planning and Coordination Committee. Secretary Ickes' modifications, according to his statement, were designed to give additional protection to independent operators, the public and that part of the industry that would not sign the agreement. His approval was accompanied by a statement in which the Secretary expressed doubts of some of the provisions in the agreement, but indicated that he was willing to give it a trial in view of the great majority of the industry that favored it. Secretary Ickes emphasized in his statement that he would be ready to modify the agreement further after a suitable trial period. In the meantime the agreement would be watched carefully to prevent discrimination as between individuals within the industry and steps taken to check any tendency to increase the price of motor fuel to the consumer unduly.

The outstanding provision of the agreement was, of course, the clause that enabled refining companies to pool funds for the purpose of buying up distress gasoline and in that way protecting the market price at fair level. Criticism expressed by senators and others of this provision was answered by the Secretary when he stated that he would keep a careful watch of the operations of the purchasing pool to prevent any discrimination.

The lease and agency practice which has been under fire since the middle of last summer when the work of drawing up a code first began, is now disposed of by a prohibition against the concluding of any exclusive dealer agreements in future except on the standard form giving the retail dealer a 30 day cancellation privilege; even these forms apply only to gasoline and no exclusive dealer agreements will be permitted in regard to lubricating oils.

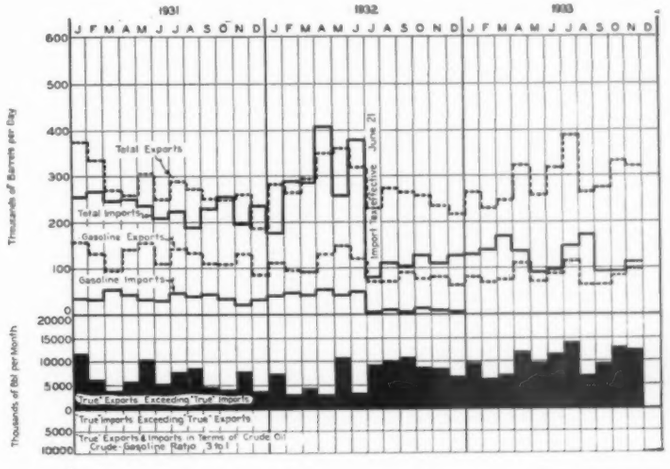
A gross operating margin of six cents per gallon on gasoline above 60 octane rating and three and three-quarters on gasoline below that standard is allowed. Retailers' margins are guaranteed and the Secretary expressed willingness to hear the case of retailers whose location or other circumstance made it impossible for them to operate on the allowed margin. In general, however, Secretary Ickes felt that a four cent margin to the retail dealer should be sufficient.

Purchase of distress gasoline and the guaranteed margin to retailers should eliminate price wars and assure the administration of the support of the industry in confronting marketing problems.

The Secretary felt that there was some justification for the plea of one section of the refining and marketing industry for a price differential and the possibility of price differentials has been included in the final agreement. If a dealer can demonstrate to the satisfaction of the petroleum administration that he can market his gasoline more economically than other dealers he will be permitted in some cases to pass this saving on to the general public. This provision, with the prohibition against exclusive dealer contracts, assures a free and competitive market from which, however, price wars will be eliminated.

The Purchase and Marketing Agreements had for their principal purposes relieving the gasoline market of distress supplies without reducing the amount available to consumers thereby stabilizing the retail price structure;

*Total U. S. imports and exports and gasoline imports and exports in relation to true exports exceeding true imports.*



and regulating practices that were considered harmful to the industry as a whole.

The agreements were modified in favor of independent operators by the insertion of a clause providing for independent representation on the Stabilization Committees. Carload and cargo brokers are protected but speculating in gasoline futures will be checked in order to prevent disorganization of a stable market. The recommendation to provide "severe penalties" for violations was disregarded by the Secretary as at variance with the N.R.A. Violation of the agreement will constitute a breach of contract.

Finally with some expressed misgivings regarding certain clauses Secretary Ickes gave his approval to the agreements. Said the federal oil administrator:

"I know that the marketing agreement is subject to criticism and I have doubt as to the wisdom of many of the provisions contained therein. I wish to make it clear that my approval is subject to modification for the purpose of preventing its unfair operation.

"After these agreements have been in operation for a sufficient period I shall be receptive to suggestions as to the necessity for making further modifications . . ."

The agreements became effective January 20.

## Gasoline Production Order

Refinery production of gasoline was limited to 27,140,000 bbl. for February by Secretary Ickes on the recommendation of the Planning and Coordination Committee. Total gasoline stocks on February 28 should aggregate 52,130,000 bbl. according to the federal oil administration.

## NRA Production Control

WITH THE final settlement of the suits attacking the validity of the NRA and of the Texas proration orders still pending in the Three-Judge Federal Court in Houston, Texas, the enforcement of federal allowables continued irresolute, and during December, 1933, oil fields in the United States produced 3,240,000 bbl. in excess of the federal quota, not including about 1,000,000 bbl. produced and not reported in the East Texas field, or a total daily excess production of 136,500 bbl. All major oil producing states exceeded their quotas by a considerable volume, the state of Kansas alone producing within its allowable. An encouraging feature in the production statistics, however, has been the reduced output for the weeks ending December 30, 1933, and January 6, 1934, when production averaged 2,174,500 bbl. per day and 2,165,500 bbl. per day respectively, against the federal allowables of 2,210,000 bbl. per day in December and 2,183,000 bbl. in January, and as compared with production between 2,300,000 bbl. and 2,400,000 bbl. earlier in December.

In the coming weeks success of enforcement will depend entirely upon the severity and success of federal persecution of violators of enforcement orders.

## NRA in Courts

A MOST important decision was rendered by the United States Supreme Court early in January, which, while not affecting the oil industry directly, warrants the conclusion that the Supreme Court will in all probability uphold most of the national emergency legislation passed last year by Congress. Of great importance in the Minnesota case was the opinion rendered by Chief Justice Hughes which places him definitely with the liberal members of the Supreme Court. In this precedent-setting case the Minnesota law was attacked by the Home Building and Loan Association as being contrary to the contract clause of the United States Constitution. The Minnesota law in question gave the property owners the right to apply in court for a two-year extension of time in which to redeem their property; and in this case an application for an order extending the period of redemption from a foreclosure sale after being dismissed by a District Court, was granted by the State Supreme Court, and upon appeal was sustained by the United States Supreme Court. The great importance of the case may be more fully realized from several quotations from the decision:—The Court stated that if there was power to set aside contracts as a result of ". . . a great public calamity such as fire, flood, or earthquake," then such a power "cannot be said to be non-existent when the urgent public need demanding such relief is produced by other and economic causes." In parts the decision is directly applicable to the oil industry:—"It is manifest from this review of our decisions that there has been a growing appreciation of public needs and of the necessity of finding ground for a rational compromise between individual rights and public welfare. The settlement and consequent contraction of the public domain, the pressure of a constantly increasing density of population, the interrelation of the activities of our people and the complexity of our economic interest, have inevitably led to an increased use of the organization of society in order to protect the very bases of individual opportunity.

"Where, in early days, it was thought that only the concerns of individuals or of classes were involved, and that those of the State itself were touched only remotely, it has later been found that the fundamental interests of the State are directly affected; and that the question is no longer merely that of one party to a contract as against another, but of the use of reasonable means to safeguard the economic structure upon which the good of all depends."

Quite definitely by this decision the United States Supreme Court gave notice that is supports the emergency legislation, and thut this decision will in all probability affect correspondingly the decisions of Federal District Courts, and Federal Judges, before which a number of suits questioning the NRA jurisdiction over the oil industry is now pending.

The decision of the Three-Judge Court in Houston, Texas, in the Amazon Petroleum Company suit attacking the validity of the NRA and of the Texas proration orders is expected to be rendered late in January or early in February. In the meanwhile Federal Judge Randolph Bryant on January 11 in Tyler, Texas, issued temporary injunctions against nine independent producing and refining companies alleged to have violated the orders of Texas Railroad Commission, restraining these concerns from producing more than their allowable. The injunctions were secured by C. I. Francis, Special Assistant Attorney General attached to the Federal Petroleum Administrator's force in the East Texas field.

At the end of December six cases, charging individuals with interstate movement of illegally produced oil, were settled out of court with the federal government, and fines totalling $28,000 were paid to the state and federal governments.

Several cases of operations in violation of the NRA code were under investigation and were being prepared for prosecution by the federal government. Reported overproduction in Oklahoma; reported violations of the labor provisions of the Code in Georgia, in St. Louis and in Fort Worth, Texas; and price "wars" in New Jersey were all under a close scrutiny of specially dispatched federal agents.

On January 16 the federal government filed a suit in the District of Columbia Supreme Court against the Standard Oil Company of

### Effect of Federal Production Orders on Principal Oil Producing States

(In Barrels)

| | Sept. to Dec. Cumulative Position | January Federal Quota | Daily Average Production per Week Ending | |
|---|---|---|---|---|
| | | | Jan. 6 (6 days) | Jan. 13 |
| Texas [1] | over 1,922,000<br>2,922,000* | 884,000 | 906,500 | 871,000 |
| Oklahoma [2] | over 461,000 | 446,000 | 378,000 | 548,000 |
| California [3] | over 1,731,000 | 437,600 | 460,000 | 473,000 |
| Kansas [4] | over 38,000 | 110,000 | 113,500 | 108,500 |
| United States | over 5,387,000<br>6,387,000* | 2,183,000 | 2,165,000 | 2,311,500 |

[1] Texas overproduced 1,500,000 bbl. during December, and in addition 1,000,000 bbl. has been estimated to have been unreported from the East Texas field.

[2] Oklahoma overproduced 700,000 bbl. during December, but the state was underproduced 239,000 bbl. on December 1.

[3] California overproduced 910,000 bbl. during December.

[4] Kansas underproduced 100,000 bbl. during December.

* Including 1,000,000 bbl. estimated to have been unreported from the East Texas field.

New Jersey, charging violation of the Oil Code and asking an injunction against the company to prevent it from giving premiums in a children's contest conducted by Babe Ruth. The government charges that the Standard Oil Company of New Jersey and its subsidiaries have required boys and girls who wished to enter the contest to drive to one of their service stations in a car driven by parents or guardians; coupons were then given to children for distribution to their friends and relatives to be returned to Standard stations one at a time; those with the greatest number of coupons were to receive prizes. The Standard Oil Company of New Jersey in an announcement to the press stated that the contests involved no obligations to make any purchases from the company's stations, that it was a part of a legitimate advertising program and that the company will fight the case.

### Liberty County—Gulf Coast

GULF PRODUCTION COMPANY (Gulf) No. 1 Kirby (S. W. Lumber Company) in J. Pleasants Survey in the northwestern portion of Liberty County, and 25 miles east from the Conroe field, was brought in for an initial production of 1,300 bbl. of 41 gravity crude oil per day, through a 3/8 inch choke on tubing, from sand encountered at 5,716 ft. and penetrated but 8 ft. The producing formation is correlated with the upper section of Cockfield, which produces gas in the Conroe field, the main oil sand in Conroe pool being 200 ft. in the Cockfield formation. The new discovery, named Cleveland field, after a small town four miles due northwest, may be considered as of very considerable importance, and as likely to be the forerunner of a major oil field of the Conroe type. Fortunately the Gulf Production Company controls about 20,000 acres around the discovery well in a solid block, and consequently the development promises to be most conservative. The Cleveland field, if proven a large field, will be an extremely valuable addition to the crude oil reserves of the Gulf Companies.

The discovery well is about 40 miles from Houston. The Magnolia Pipe Line Company (Socony-Vacuum) completed a short 4-inch line to the well from its trunk line, and posted a price of $1.00 per barrel effective January 11.

The Gulf Production Company started three new wells near the discovery test and other concerns began operations on three wildcats within two to six miles of the new pool. A renewal of an intensive wildcat drilling is anticipated in the general area.

### Greta—South Gulf Coast

ATKINS AND O'NEIL No. 2 J. F. Welder in J. T. McGrew Survey extended the Greta field 3/4 of a mile due north, being completed for 30 bbl. per hour through 1/8 inch choke from 4,379 ft. The extensioner is definitely an edge well, having produced considerable volume of salt water, but it proves for production additional 500 acres in the Greta pool.

The Trinity Drillers and Continental Oil Company No. 1 Welder, half a mile due northeast from Atkins and O'Neil's new producer tested salt water in the 4,350-foot sand and is now drilling at around 5,400 ft.

### Anderson County—East Texas

TIDE WATER OIL COMPANY and Texas Seaboard Oil Company No. 2 Monning, 1/8 of a mile due west from the discovery well tested only salt water and 15,000,000 cu. ft. of gas per day from 5,351 ft., and after being plugged back to 5,260 ft. made 20,000,000 cu. ft. with about 40 bbl. of condensate per day. The same companies' No. 3 Monning, 3/4 of a mile due southeast from the discovery well tested salt water at 5,281 ft., and will be also plugged back and completed as a gas well. Thus an area that was considered of primary importance during 1933 has been definitely eliminated as an oil producing prospect.

### Lucien—Central Oklahoma

AN AGREEMENT was reached among the operators in the Lucien field on the uniform spacing of wells in the center of each 40 acres. Shell Petroleum Company's No. 1 Hay and Stanolind-Amerada's No. 1 Schonwald, direct offsets in sections 20 and 21—T20N-R2W, extended the Lucien field 3/4 of a mile south, and are at this writing being completed at depths of about 5,100 ft. Six new locations were made in the Lucien field last month.

### California

IN THE KETTLEMAN HILLS field four new wells were completed within the last month adding about 33,000 bbl. per day to the pool's potential. The Kettleman North Dome Association completed its No. 85–30–J for 15,575 bbl. initially from 8,762 ft. and its No. 38–34–J for 2,311 bbl. initially from 8,819 ft.; Standard Oil Company of California completed its No. 4–29–J for 7,600 bbl. initially from 8,535 ft.; and Union Oil Company completed its No. 4 Amerada King for 7,350 bbl. initially from 8,520 ft.

The Huntington Beach field controversy continued unsolved with the pool still exceeding its quota by a large margin. The Superior Court of Orange County ordered three wells of the Termo Corporation to be surveyed to determine whether they produce from the state owned tidelands. It is understood that a royalty agreement on newly produced crude oil will be reached at an early date, the owners of the deviated wells furnishing the state with all survey records. However, the question of oil already produced from the tidelands will have to be settled in courts.

BASIL B. ZAVOICO.

▼

# CANADA

### General

CERTAIN sections of the Province of Ontario centering around Toronto have been treated to a gasoline price war. On January 12 the two major oil companies, Imperial Oil Limited and British American, announced drastic price reductions. This move was rendered necessary by competition from certain quarters which was imperiling hundreds of the companies' dealers, and also their own service stations and employees. The situation was handled by the two major companies in different ways. Imperial Oil Limited announced a new gasoline at below cost. This gasoline was ethylized and was placed on the market at five cents below the company's standard brands in Toronto, and three cents less in outlying centres. British American Oil Company Limited announced a similar reduction on three of their standard brands. These reductions were followed by similar moves on the part of other major companies.

The companies involved have been noncommittal regarding the conditions which have made the competition they are faced with economically possible, and have contented themselves with stating that certain reasons made it impossible for them to meet such competition except by marketing at a loss. The first of these reasons, it was explained, was the maintenance of a standard quality of gasoline. In addition to this they are faced with the necessity of maintaining a continuous reliable service of gasoline at a uniform and expected quality, not only in larger centres where this spasmodic competition was most felt, but also over widespread and often sparsely populated areas. This latter is a serious factor in Canada, and one that is too seldom appreciated by the general public. This country has vast distances, and a national company has far greater responsibilities of distribution than one catering to crowded centres.

### Domestic Production

DOMESTIC PRODUCTION of crude during the year 1933 increased 7.8 percent to 1,126,100 bbl. from the 1932 production of 1,044,412 bbl. Crude is only produced in three Canadian provinces, each of which recorded increases. New Brunswick's total of 9,100 bbl. was up 42 percent; Ontario's production increased 5.1 percent to 137,000 bbl., and Alberta rose 8.0 percent to 980,000 bbl. The

production of natural gas has been estimated to have been 22,918,600 thousand cubic feet during 1933, which was a decline of 2.1 percent from the 1932 total.

## Imports

IMPORTS of crude for November 1933 were practically the same as those of October being 2,621,755 bbl. compared with 2,620,396 bbl. in the month previous, and 1,477,306 bbl. in November 1932. Total imports for the twelve months ending November 1933 were 26,349,440 bbl. valued at $19,420,905 compared with 26,253,451 bbl. valued at $26,871,116 in the same period in 1932.

Gasoline importations showed a further decline during November being 21,723 bbl. compared with 29,350 bbl. in October and 234,082 bbl. in November of 1932. Total importations of gasoline for the twelve month period ending November 1933 were 519,627 bbl. valued at $1,564,950 compared with 2,195,640 bbl. valued at $7,785,356 during the twelve month period ending November 1932.

**Canadian Crude Oil Imports During November**

| From | Barrels |
|---|---|
| United States | 2,026,225 |
| Trinidad and Tobago | 10,260 |
| Colombia | 585,270 |

R. C. ROWE

▼

# UNION SOVIET SOCIALIST REPUBLICS

**Official Figures for Soviet Oil Operations**

| | Crude Production (Bbl.) | Daily Average (Bbl.) | Run to Stills (Bbl.) | Drilling (feet) |
|---|---|---|---|---|
| January | 10,382,400 | 334,917 | 9,510,900 | 157,486 |
| February | 10,162,600 | 362,950 | 9,167,900 | 169,396 |
| March | 11,003,300 | 384,800 | 11,000,300 | 228,532 |
| April | 11,824,400 | 394,150 | 10,472,700 | 228,790 |
| May | 12,794,600 | 412,729 | 11,834,900 | 213,744 |
| June | 12,489,400 | 416,313 | 11,641,700 | 198,729 |
| July | 11,837,000 | 394,567 | 10,837,800 | 214,385 |
| August | 14,340,900 | 478,363 | 11,481,400 | 306,414 |
| September | 13,402,200 | 432,329 | 11,707,500 | 236,200 |
| October | 14,595,000 | 470,800 | 11,648,000 | 293,667 |
| November | 13,479,200 | 449,307 | 10,651,200 | 272,180 |
| December* | 13,400,000 | 432,258 | 10,500,000 | 270,000 |
| Total 1933 | 149,711,100 | 410,167 | 131,591,300 | 2,789,523 |
| Total 1932 | 149,725,500 | 409,086 | 142,110,082 | 2,436,318 |
| Revised Quota 1933 | 170,800,000 | 467,670 | 155,000,000 | 3,315,000 |

* Preliminary figure.

Crude oil conversion ratio: 7 Bbl.—one ton.

## The Year

THE SOVIET oil industry has just completed a difficult year in which early failure to produce in accordance with the plans set out endangered the fuel balance on which many other industries within the Union depended for completion of their quotas of production. Due to strong measures adopted at Azneft and to the success of exploratory drilling in a new section (Lok Batan) the second half of the year showed much better results. Actually, measures have been inaugurated during the past year, the results of which are not apparent as yet, which should go a long way toward making it possible for the petroleum industry to fulfil, or very nearly fulfil its revised plan of production during the coming year. Lack of adequate equipment and the confused transportation system still constitute a menace for the new year, but definite plans by which these obstacles can be overcome are available and no doubt will be made use of in a supreme effort to bring progress of the Soviet petroleum industry back to the acceleration it enjoyed in 1931. Already changes in personnel and a general shake up of men in responsible positions has removed one of the greatest handicaps that the industry had to face during the past year—that of dissatisfied labor directed by inefficient leaders. The lack of spirit that was apparent at Grozni and in the secondary trusts has been removed by the creation of better conditions for labor and by the removal of the former uninspired leadership that prevailed in several of the trusts.

A similar reorganization coupled with a certain amount of unexpected good fortune has already shown most gratifying results at Azneft and the Soviet industry looks forward to 1934 with confidence that the results will show a very considerable improvement over those achieved in 1933.

Before considering the problems that confront the Soviet oil industry in 1934 and the possible methods of meeting these problems, it will be interesting to survey the results of the year just past. Crude production, according to official preliminary figures, just about equaled that of 1932. Production in 1933 was 149,711,100 bbl. against 149,725,500 in 1932 and 156,904,390 bbl. in 1931. The significant feature, of course, is the downward trend in production from 1931. Without the tremendous gusher production from the Lok Batan field the industry would not have equalled last year's production which was already below that of 1931.

Only 131,591,000 bbl. were run to stills in 1933 against 142,110,082 in 1932 and 133,669,200 bbl. in 1931. Here the trend is not steadily downward but the failure to meet the plan or even to equal last year's refining endangers the national fuel balance, restricts export activities on which the government relied for foreign credits and delays the complete mechanization of the Soviet Union. Having alloted themselves a certain length of time to study foreign refining equipment manufacture and to study the operation of foreign-built refineries, the central authorities decided that imports of petroleum refining equipment must stop as the domestic industry should be ready by last year at least to turn out adequate equipment. Obviously during the past year this has not been the case; for a little while longer the Soviet industry will have to depend to some extent on imported equipment. The breakdown of the transportation system and the added requirements imposed upon it by Grozni's failure to complete crude production in relation to its refining capacity as well as the lack of equipment, all were factors in the failure of the refining industry to keep pace with last year's runs to stills—and all these factors may be corrected during the coming years.

Drilling statistics show that this division which has long been one of the weakest in the Soviet industry has shown a steady improvement, increasing from 2,331,310 ft. in 1931 to 2,436,318 ft. in 1932 and finally to 2,789,523 ft. in 1933. Results show that the quality of drilling has been sacrificed to obtain a certain definite footage. Thus, for example, Grozni showed a better plan fulfillment in the drilling division than did Azneft considering the figures in feet. But the resulting production at Azneft was, of course, very much higher than that at Grozni. The plan for 1931 called for 3,000,000 ft. of drilling, 3,350,000 ft. in 1932, and 3,315,000 ft. in 1933. Failure to complete the plan for any year indicates the problem

confronting the Soviets in increasing drilling to 19,800,000 ft. by 1937.

**Russian Drilling 1913–1937**

| | (Feet) |
|---|---|
| 1913 | 906,500 |
| 1920 | 17,820 |
| 1921 | 61,380 |
| 1922 | 229,680 |
| 1923 | 406,230 |
| 1924 | 601,590 |
| 1925 | 752,730 |
| 1926 | 1,258,950 |
| 1927 | 1,194,600 |
| 1928 | 1,468,500 |
| 1929 | 1,537,470 |
| 1930 | 2,127,840 |
| 1931 | 2,331,310 |
| 1932 | 2,436,318 |
| 1933 | 2,789,500 |
| **Plan** | |
| 1934 | 7,260,000 |
| 1935 | 10,560,000 |
| 1936 | 14,850,000 |
| 1937 | 19,800,000 |

Meanwhile the plans for other industries in the Soviet Union are being pushed forward, leading to rapidly increasing mechanization of agriculture and industrialization of large areas with a growing demand for petroleum products as more and more automobiles become available and even Soviet aviation is becoming a factor in the motor fuel demand. Individuals have been strictly rationed on kerosene in order that a supply might be available for industrial purposes. All this has thrown great demands on the refining industry. Unfortunately the construction program that actually was completed is not very large.

**Refinery Construction in 1933**

| Location | Type | Capacity |
|---|---|---|
| Orsk | Cracking unit and 2 pipe stills | 10,500,000 bbl. |
| Khabarovsk | Cracking unit and pipe still | 2,800,000 bbl. |
| Odessa | Pipe still and lube oil compounding plant | 1,400,000 bbl. |
| Krasnadar | Topping plant | 5,250,000 bbl. |
| Saratov | Cracking unit | 8,750,000 bbl. |

During 1933, however, despite the growing and insistent demand for petroleum products both for the domestic market and for export abroad, the industry managed to turn out only 22,400,000 bbl. of motor fuel against 23,158,480 bbl. in 1932 and 20,044,800 bbl. in 1931. Kerosene production amounted to just over 30,000,000 bbl. against 31,434,900 bbl. in 1932.

## Cause of Decreased Production

AT THE BEGINNING of 1933 the trend of production from all the Soviet oil trusts was distinctly downward and numerous investigations were conducted by central organizations to determine the cause and remedy. The careful interrelation of the various industries under the Second Five Year Plan meant that the failure of one industry as important as petroleum would create a difficult situation for all other industries depending on petroleum products for fuel.

The results of impartial investigation indicated that several factors were responsible for the decline of production, drilling and refining. The labor turnover was extremely high as a result of the very poor living conditions that prevailed at the fields. The food supply was insufficient and the wage scale was lower proportionately than that of other industries. There was a constant flow of labor out of the oil fields and a flow of new unskilled labor into the fields. Because of the difficulty of procuring building materials at the oil fields, the management of the various trusts including Azneft, failed to make substantial progress in rectifying these conditions and the labor turnover continued during the early part of 1933 at a high rate.

The management of all the trusts with the exception of Azneft had fallen into the habit of looking for improvement to come as the result of fortunate chance rather than of their own work of reorganization. Drilling was aimed to bring in large gushers and pumping production, which should have formed the reliable background of production, was allowed to decline while the trusts concentrated on the search for gushers.

In addition, equipment was extremely hard to get. The machine shops of Russia were unable to meet the demands made upon them by the oil industry. Even when the equipment was ready at the shops, an even greater obstacle, in getting it transported to the fields, arose. Finally, the quality of the equipment was poor. A very high percentage of drilling time was unproductive as a result of breakdowns resulting from poor drilling equipment. Deep drilling, which was becoming more and more necessary as the upper strata became exhausted, was impossible with some of the equipment furnished for this purpose from domestic works. The industry could not rely on imported equipment as it had in the past because the quantity of imports was strictly limited by considerations of national economy.

Perhaps the most disorganized division of the industry was the distribution. Transportation systems all over Russia were overstrained. Total capacity of the Caspian tanker fleet, the pipelines and the railroads was insufficient to handle the production from Baku. Crude had to be shipped from Baku to Grozni for refining because of the excess refining capacity over crude production at the latter trust. Such unforeseen requirements made the rôle of transportation, which itself was behind the plan for 1933, hopeless.

Finally the trend of crude production had become so markedly downward that the central authorities in Moscow took a hand. It was resolved to attempt to correct conditions at Azneft first, in the hope of saving the national fuel balance by increasing the production of this largest of the Russian oil trusts.

Orders were sent out by the Commissar for Heavy Industry to supply the requirements of Azneft for drilling equipment and building material. Various machine shops were assigned to this work and preference was given to the demands from Baku. The wage scale was increased to equal that of the coal workers in the Don basin. Shock brigades of picked laborers were sent into the fields of Azneft and living conditions were improved. The importance of increasing production was impressed on the management and workers of Azneft and an immediate change was evident in the tempo of operations at Baku. At this critical period Lok Batan No. 45, fourth largest producing well ever drilled was brought in for an initial production of over 150,000 bbl. per day. Storage capacity was completely overwhelmed and earthern reservoirs were hastily constructed to catch and hold the flood of oil that ran through the Lok Batan field like a river. Soviet troops worked side by side with the picked laborers that had been sent into the fields constructing reservoirs and transportation facilities. Other wells at Lok Batan, Artema and Kala were brought in for huge production from shallow depths and the downward trend of crude production, at least at Azneft, had been checked before the end of the first half of the year.

The fact that crude production for 1933 practically equalled that of 1932 was due entirely to the concentration on Azneft and the tension under which operations were conducted there during the second half of the year. Quotas for production "before the end of navigation" were set up and work went forward rapidly on the new prolific fields. Azneft operations increased more than 20 percent over 1932 and cost of production per barrel was lowered 2.5 percent. Here again is visible the influence of the tremendous gusher production from the newly opened fields.

With the vast oversupply of crude at Baku exceeding expectations by 154 percent it was necessary to ship crude to Grozni where production continued to run well under the plan for the year but where sufficient refining capacity had been constructed to handle a considerably larger crude charge.

In the third quarter of 1933 reorganization at Grozni was undertaken in a serious manner. Konstantin Riabovol was appointed head of Grozni and the management was shifted around and concentrated in a central bureau. M. Riabovol's expert work for the Soviet petroleum industry is an assurance that conditions at Grozni will be improved during the coming year. Labor conditions at this trust are being improved and a back log of steady pumping production is being built up while exploration drilling is being carried on to supply new production. The general improvement at Grozni was undertaken too late in the year for definite results to become evident in the year's figures. But it may be assumed that by June of 1934 the trend of Grozni production will again be upward. Such rapid improvement as occured at Baku will of course be impossible as equipment cannot be supplied to Grozni at the rate that it was to Azneft when Azneft was the only trust on which the authorities were concentrating. Spectacular gusher production cannot be counted on to rescue Grozni from its present position. But M. Riabovol's sound work is building up the trust by removing the fundamental obstacles and sometime during this year the results should become evident.

Reorganization of the remaining trusts along the lines that have been established at Azneft and Grozni remains to be undertaken during 1934. Already steps have been taken to centralize power over these trusts in the hands of M. Barinov. A single trust has been organized to control all Russian refineries and exploratory drilling will be brought under central authority. The result of this reorgan-

ization will be a very considerable reduction in the importance of the individual trusts. The opening up and development of new fields will be handled by the central drilling trusts exclusively.

### Operations in 1934

ON THE WHOLE therefore prospects look much brighter for the Soviet oil industry at the beginning of 1934 than they did at the beginning of 1933. Conditions during the past two or three years indicated clearly that Soviet production was headed for a serious decline and the reasons have been repeatedly stated in WORLD PETROLEUM. Now, however, with the development of new fields at Lok Batan, Artema, and Kala in Azneft, and the reorganization of the entire industry, with the availability of imported refining and perhaps drilling equipment and with definite steps being taken to improve the transportation system, it appears that the industry should very nearly fulfil the plan for 1934.

### Transportation

THE PROBLEM of oil transportation as it stands at present represents an interesting and typically Soviet problem. Bringing the production at Baku up to the plan has resulted in an increased quota for the coming year. Azneft crude production is expected to equal 161,000,000 bbl. during the coming year and for reasons outlined above it seems possible that this figure may be achieved. During the year just past, however, Caspian tankers were unable to handle the production from Baku, the railroads were not able to render much assistance and the pipelines, of course, had a definite capacity beyond which they could not go. Caspian shipping as now organized can handle about 70,000,000 bbl. of crude from Baku; the railroads can handle a further 24,500,000 bbl.; finally, the existing pipelines can transport 17,500,000 bbl. Deducting a quantity of oil that will be used in the field and around Baku, there still remains approximately 31,500,000 bbl. of oil that cannot be transported by the present facilities—that is if Baku should fulfil the quota set for 1934.

In a recent issue of ZA INDUSTRIALIZATION, leading Soviet daily, it was pointed out that the growing demands resulting from the spread of motor cars, tractors and aeroplanes would lead to an acute situation if there were any delay in transportation of oil from Baku.

It has been suggested that the additional capacity for transportation may be obtained by taking measures that may be put into effect at once. Rail terminals are being installed at Lok Batan and Kala to enable oil to be shipped direct from these fields without first having to go to Baku and increase the congestion there. The terminal at Baku has been enlarged in order to load complete tank trains instead of individual tank cars as heretofore. In addition, it will be necessary to rationalize the entire inter-city transport system to relieve the congestion at the Baku rail terminal and add 3,500,000 bbl. to the annual capacity of the rail facilities.

Within six to eight months it would be possible to enlarge the existing pipeline to carry an additional 6,000,000 to 7,000,000 bbl. per annum.

Finally, however, chief reliance must be placed on water transport in the Caspian Sea. The plans must be rationalized to make the best use of existing tankers. Of the three tanker routes from Baku the most important cannot be used in winter and should therefore receive the greatest concentration in summer leaving the other two routes for winter. Enlarged tank storage will be necessary at the winter ports to accommodate supplies that will last practically throughout the summer while the other route is being used. Another oil dock should be erected at Baku in time to be put in service when navigation opens in the spring. Already the docking facilities are over-crowded and the addition of new ships to the Caspian fleet will create an intolerable situation at the Baku oil harbor.

Work at the Sormoro Works could be stimulated to insure the completion of the five tankers that are under construction there. These five tankers will increase the fleet capacity by almost 15,000,000 bbl. New pumps are necessary on existing tankers in order to expedite loading and unloading.

A harbor could be installed at Lok Batan which would serve the tankers coming direct to that field. While this would entail a considerable amount of work it would relieve the Baku facilities to a point where they might be able to handle the quantities of oil that must flow through the port during the coming year.

### Product Prices

AN EXTREMELY important order has been issued by the Council of Peoples Commissars which took effect on January 1, 1934 regarding the prices to be paid for petroleum products. In order to check abuses that existed under the system whereby collective farms, tractor depots, government agencies and others paid a lower rate than the general market, it has been decided to raise the level of prices for all buyers to the general market level. Under the new schedule of prices, which cancels the 68 individual quotations that existed before the order, kerosene for tractor stations in the first zone, that is, close to large cities, sells for 800 Rbl. per ton (equivalent to $1.27 per gallon at the official exchange rate of 2 Rbl. to the U. S. dollar and to $0.93 per gallon at the rate at which rubles actually can be purchased). The price of kerosene in the second zone is approximately 12 percent less.

First grade gasoline in zone one sells for 1,100 Rbl. per ton (equivalent to $1.54 per gallon at the official exchange rate and to $1.13 per gallon at the actual exchange rate). Prices for aviation gasoline are 1,200 Rbl. per ton and for second grade gasoline are 1,000 Rbl. per ton in zone one. In zone two prices for all these grades run 10 percent less.

### Storm

A SECOND blizzard has raged for two days in December over the oil fields at Baku but this time did much less damage because precautions had been taken in advance. The storm succeeded in disorganizing Caspian shipping and destroying temporarily communication lines into Baku.

Orders have been issued that no more investigating parties sent out by central organizations are to be permitted to go to Baku where, during the past year, the presence of various unauthorized investigations have caused interruptions and irritation. Only investigations authorized by the proper authorities will be permitted.

Krim-Gasneft, a special trust, has been organized to investigate the promising oil indications that have been reported in the Crimea. A geological research party that was sent out recently reported the presence of indications of commercial quantities of oil at Chongolek and Borzovka in the Crimea. Several thousand barrels are expected to be produced before the end of 1934.

J. WEGRIN

▼

### Anglo-American Retirements

TWO DIRECTORS of the Anglo-American Oil Company, J. Wilkie Frye and A. Maclean, who retired at the end of 1933 under the company's pension scheme, were among the eight principal guests at a dinner given by the Chairman, Frederick J. Wolfe, in London on December 29. Six of the company's officials, H. Kemp, E. W. B. Nicholas, G. E. Fulstow, H. C. Featherstone, A. M. Montgomery and E. C. Morey, who also retired under the scheme, were coupled with the two directors as recipients of the dinner. Mr. Fulstow was the senior member of the Anglo-American staff in point of service, having joined the company as a boy in 1888.

▼

### International Testing

DR. A. E. DUNSTAN, chief chemist of the Anglo-Persian Oil Company, who was recently a guest in the United States of the American Chemical Society and the American Petroleum Institute, gave some impressions of his American visit to the Oil Industries Club, London, at a luncheon last month. He stated that he had noticed a remarkable effect of the 1933 World Petroleum Congress, the papers entered at the Congress being eagerly taken up and discussed in the United States. Discussing international testing methods, Dr. Dunstan pointed out that only 3½ years ago the joint efforts of the Institution of Petroleum Technologists, the American Society for Testing Materials and the American Petroleum Institute were devoted for the first time to a definite international method of testing the anti-knock rating of motor fuels. To-day, for the first time, they had arrived at an international procedure, which was bound to be the forerunner of many others, so that they could foresee in the future an epoch of tests which would be entirely international.

▼

### German Natural Gas

AFTER DRILLING to a depth of 1,100 meters the German Wintershall group struck gas near Mülhausen in Thuringia. New locations are being drilled in the hope of finding oil and connections are being completed for industrial utilization of the gas.

# Britain's 1933 Imports Establish Record

HEAVY imports of oil into Great Britain during December raised the total volume of import trade for 1933 to a new high record. Figures for crude and products for the complete twelve months show an aggregate of 70,210,583 U. S. bbl., an increase of 5,958,768 bbl., or 9.3 percent on the purchases for 1932. Deduction of re-exports and exports of British refined products leaves the proportionate gain in retained imports on the preceding year very much the same. The previous highest year's gross import total was 68,678,630 bbl. in 1930.

Last year's substantial recovery in shipments to Great Britain can be safely attributed to increased use of petroleum products due to trade recovery. Normal increase of population, the relatively attractive level of British prices, and a belief during the latter part of 1933 that quotations were taking an upward turn, probably contributed to the expansion of import business.

Among the principal refined products, shipments of motor spirit, with a rise of 3,012,763 bbl., accounted for more than half the advance in the total oil imported, but a larger percentage increase took place in fuel oil, the addition of 2,194,112 bbl. in this category representing 15.5 percent on the 1932 figure. The substantial addition thus indicated in imports of products which have been penalized by the reduction of 1d. per gallon in the customs rebate on heavy oils is encouraging evidence of the resilience of demand. It is doubtless partly due to the growth of new transport methods and to the establishment of new industries with modern ideas on heating and power supplies.

Lamp oil was the only important class to show a decline, but in this case the recession was an important one, amounting to 896,573 bbl., or 14.5 percent. The smaller demand may be due to less extensive cracking of kerosene in Britain, abnormally warm weather, and increasing use of electricity in preference to lamps owing to the extension of the national electric "grid" system to rural areas.

Analysis of eleven months' British imports to the end of November 1933 shows that kerosene imports from Russia declined by something like 70 percent on the 1932 figure, confirming the view that a great deal of Russian kerosene has been diverted to Far Eastern and other markets since the temporary British embargo on Russian imports earlier in the year. Soviet exports to this country of motor spirit were also sharply lower, but the Russian distributing organization probably had petrol contracts to fulfil on the lifting of the embargo, so that the drop in imports of Russian motor spirit during the first eleven months of 1933 was less steep than that in lamp oil.

Another interesting side-light on the year's import trade thrown by the eleven months' details is the big drop in motor spirit and lamp oil from the United States, and a big advance in takings from the Dutch West Indies and other sources of supply. This suggests strongly that the readjustment of the international flow of oil products resulting from the imposition of the United States tariff in 1932, and discussed in the September 1933 issue of WORLD PETROLEUM, is affecting the British market to the disadvantage of important American oil products.

Crude oil imports for the twelve months, at 11,187,515 bbl., showed a fair increase on 1932, but the amount received from Persia in 1933, at 6,334,742 bbl., was only 56.6 percent of the total, against 63.1 percent of total crude imports in the previous year.

Notwithstanding the record volume of import trade last year, the value of the products shipped, shown by official figures at £30,343,084, was £858,321, or 2.7 percent, below the value for 1932. The discrepancy between rising volume and reduced cost was due largely to the advance in volume shown in fuel oil—a relatively inexpensive product—while motor spirit, although showing a big increase in bulk, actually cost less in the aggregate in 1933 than in the previous year. This indicates that, although the British motor spirit market may still compare favorably from the marketer's point of view with other fields for distribution, it was more competitive and less remunerative on balance last year than in the preceding annual period.

Chief among the conclusions to be drawn from the 1933 figures is the fact that, under the impetus of reviving industry, Britain displayed an ability to absorb an increasing quantity of petroleum products, and also that for the moment the trend of import business is definitely on the rise. It will doubtless continue in the same direction for a time if trade expansion maintains its present momentum. The outlook as far as the volume of trade is concerned is therefore satisfactory enough.

The direction which importing business will take in the immediate future must depend to some extent upon the general trend of Britain's commercial attachments, including the result of the negotiations for a trade agreement with Russia which have now been continuing for some months. Average prices for Britain's imports during the current year seem likely to make some advance on those for 1933, in view of the possibility of greater settlement in the world oil industry and the measures taken in the United States for stabilizing the dollar.

**British Oil Imports by Products**

U. S. Bbl.

| | December 1933 | Twelve months to December 1933 | Twelve months to December 1932 |
|---|---|---|---|
| Lamp oil | 637,470 | 5,295,447 | 6,192,020 |
| Motor spirit | 2,252,738 | 30,760,045 | 27,747,282 |
| Other spirit | 25,912 | 438,424 | 426,121 |
| Lubricating oil | 238,659 | 2,946,813 | 2,465,956 |
| Gas oil | 414,380 | 3,282,484 | 2,774,762 |
| Fuel oil | 1,727,037 | 16,292,348 | 14,098,236 |
| Others | 286 | 7,507 | 18,806 |
| Total products | 5,296,482 | 59,023,068 | 53,723,183 |
| Crude | 748,874 | 11,187,515 | 10,528,632 |
| Total imports | 6,045,356 | 70,210,583 | 64,251,815 |

▼

# French Interests in Poland

PARIS: JANUARY

THE GALICIAN-OIL COMPANY of Galicia, Poland, it has been announced, has acquired stock of the Soc. Francaise des Petroles de Silva Plana, valued at Fr. 30,000,000 at par. The total capital stock of Silva Plana is Fr. 93,400,000; by this move Galicia has acquired a considerable influence in the affairs of Silva Plana. For an understanding of the transaction it may be recalled that in 1926 Silva Plana took over the Limanova oil concern, the liquidator of the Limanova concern accepting stock of Silva Plana. The amount of this stock was subsequently decreased in consequence of a reduction of the capital stock of Silva Plana from Fr. 186,800,000 to Fr. 93,400,000, so that the liquidator of the Limanova was allowed a further block of Silva Plana stock valued at Fr. 20,000,000. This block has now been sold to the Galicia, which itself is dominated by the Cie. Franco-Polonaise des Petroles of Paris. Further, Galicia has obtained Fr. 10,000,000 worth of Silva Plana stock formerly owned by Consortium du Nord, which up to the present has had control of the Silva Plana company. Control of Silva Plana thus passes from the Consortium du Nord group to the Galicia—which means the Franco-Polonaise des Petroles, in which various French petroleum refineries, particularly Lille-Bonnieres-Colombes, have a controlling interest. Corresponding changes have been made in the board of Silva Plana.

The Silva Plana will for the present continue to exist as an independent concern, but an eventual fusion with Galicia and Franco-Polonaise des Petroles is under contemplation. It may be further noted that Silva Plana also has certain interests in Germany, especially in the Milag and its subsidiary the Deutschen Uberseeischen Petroleum A. G. All these transactions deserve notice because the action of the Galicia assures that the Silva Plana and Limanova interests will remain in French hands and which, on account of the weakened condition of the old owners (Consortium du Nord) due to the depression, were about to pass into other hands. The Silva Plana is among the most important producers of oil in Poland (production in 1933 was 314,230 bbl. against 335,370 bbl. in the previous year).

## German Exploration

PREPARATIONS are being made by Prussag to erect a derrick in the area near the Steinhuder Sea in Germany and commence drilling operations on favorable geologic indications. This area was leased last year by a group of German oil companies including Deutsche Petroleum A/G., Ebag, Gewerkschaft Elwerath, Prussag and others.

## A Correction

IN THE JANUARY issue of WORLD PETROLEUM the caption of a map which was designed to show the potential market for fuel oil for domestic heating by states in the United States, stated, in error, that the figures on the map referred to the number of domestic oil heating units; the figures referred to consumption of fuel oil for domestic heating figured in bbl.

# SHIPPING

## More Tankers Ordered

THERE ARE indications that more than one American oil company will shortly follow the lead of the Standard Transportation Company (Socony-Vacuum Corporation) in ordering some American-flag ocean-going tankers, particularly as such a step is likely to be looked upon very favorably by the Administration at Washington because of its beneficial effect on the unemployment situation.

Some interesting statistics have been worked out in this connection by J. J. Maguire, the Standard executive in charge of marine oil transportation. The two tankers which this company has ordered from the New York Shipbuilding Corporation, Camden, N. J., are each of 15,000 tons dwc. capacity, and will be turbine-driven at 11½ knots. In addition, the company has contracted with the United Dry Docks of New York for three 2,000 ton McIntosh and Seymour Diesel-engined canal and coastwise tank barges.

In placing this order the Socony-Vacuum Corporation was influenced by the desirability of stimulating work in the engineering and shipbuilding industries. The company was faced with the fact that there exists an excess supply of tanker tonnage of a kind. Consequently they have decided to scrap an equivalent amount of old tonnage, so that the new vessels will not disturb charter rates.

**Dimensions of Two New Tankers for Socony-Vacuum**

| | |
|---|---|
| D.w.c. on 29 ft. 10¼ in. draft | 15,285 tons |
| Cargo capacity | 126,905 bbl. |
| Bunker capacity | 1,365 tons |
| Shaft horsepower | 4,000 |
| Loaded sea speed | 12½ knots |
| Hourly pumping capacity | 12,450 bbl. |
| Length, breadth and depth | 480 ft. x 65 ft. 9 in. x 37 ft. |

The propelling machinery will consist of double reduction geared turbines, and Foster Wheeler water-tube boilers at 400 lb. working pressure superheated to 700 degs. Fahr. For cargo pumping there will be six turbine-driven rotary pumps.

In most respects the three N. Y. State canal tank power barges to be built by the United Dry Docks for Socony-Vacuum will be similar to the fleet now in service, the performance of which was outlined in WORLD PETROLEUM'S marine number of November, 1931. Each will be 252 ft. long oa, by 40 ft. beam and 14 ft. depth, and will be propelled by twin McIntosh and Seymour Diesels of 350 s.hp each. On a 12 ft. draft they will each carry 16,000 bbl. The loaded speed will be nine knots.

A somewhat similar vessel was ordered toward the end of December from the Bethlehem Shipbuilding Company by the Gulf Refining Company. She will have the same make of Diesels, but of higher power, 450 s.hp each. Her cargo capacity will be 15,000 bbl.

A 5,000 ton tankship for the River Plata service has just been ordered by the Standard Shipping Company (Jersey Standard) from the Furness Shipbuilding Company, Haverton-Hill-on-Tees, England.

Last month we indicated that the Eagle Oil and Shipping Company Ltd., London, were likely to be in the market for new ocean-going tankers. Since then five British shipyards have each received an order for a 11,000 ton motor vessel, namely,—Swan, Hunter and Wigham Richardson, Wallsend-on-Tyne; Hawthorn, Leslie and Company, Ltd., Hebburn-on-Tyne; Workman Clark and Company, Ltd., Belfast; Lithgow and Company, Glasgow; and the Furness Shipbuilding Company, Ltd., Haverton. The Diesels for the two Tyne-built ships will be constructed by Hawthorn Leslie.

The engines will be of the four-cycle, single-acting, airless-injection type fitted with the Werkspoor-Zulver under-piston supercharging system and special valve gear and so will be similar to those to be installed in the twelve 12,100 ton tankships order in December from British and Continental shipyards by the Anglo-Saxon Petroleum Co. Ltd. The latter are of 3,600 s.hp, and will drive the ships at 12 knots. We were enabled to see the drawings of these 12,100 ton vessels prior to their being ordered, and were impressed by many of the advanced features of design that have been incorporated. Exhaust gas from the main engines will be used for generating steam for auxiliary purposes.

## Lloyd's 1933 Returns

OWING TO Lloyd's Register of Shipping reports for the end of last year not including some of the recent orders placed for tankers, its figures indicate a further decrease in the construction of tankships of 1,000 gross tons and up, as compared with the period ending September 30, 1933. The figures are given in the accompanying table.

**Lloyd's Record of Tankship Construction During Second Half of 1933**

1,000 tons gross and over

| Country | Quarter ending Dec. 31, 1933 | Quarter ending Sept. 30, 1933 |
|---|---|---|
| Sweden | 41,100 | 47,600 |
| Great Britain & Ireland | 31,026 | 31,026 |
| Japan | 19,200 | 9,600 |
| Spain | 18,212 | 18,212 |
| Other countries | 8,070 | 42,626 |
| World total | 117,608 | 149,064 |

By far the greater part of the tanker tonnage under way is composed of motor vessels, says Lloyd's, these representing 99,848 gross tons of the 117,608 ton total.

It will be noted that Japan doubled the total of her tanker tonnage under way. Sweden's total dropped 6,500 tons, while the volume under way for Great Britain and Ireland and for Spain remained unchanged. For the other countries, there was a very sharp shrinkage.

Returns for large ship propulsion type Diesel engines from all countries show that the aggregate indicated horsepower of those in hand at the end of December was 621,216, as compared with 494,192 at the end of September last. The total for Great Britain and Ireland in this period advanced from 72,939 to 108,101. Japan's figure rose from 83,990 to 123,510; Holland's from 96,885 to 119,725, and Germany's from 70,072 to 80,465. Sweden showed a gain from 55,470 to 61,045; Denmark, from 27,350 to 34,200 and the United States from 5,726 to 7,210.

## U. S. Tanker Code

IN ORDER to increase employment in the American tankship business, operators in the United States have been discussing a divisional code, which is also designed to stabilize operations. This code forms one of the group drafted in conformance with the major code for the American shipping business. The latter comes up for further hearing on February 1st, and if adopted action will be taken on the divisional code.

A chartering bureau is proposed at which every tanker of 5,000 dw. tons or over will be registered, and the complete fleet will be arranged for the employment of the registered tonnage upon demand. Even though tonnage

may be owned by a competitive concern, under the terms of the divisional code, oil companies will use this tonnage whenever possible. Oil companies will only go into the world market for chartering tonnage when the American chartering bureau reports that no American tonnage is available.

In addition to this step the oil companies will have to increase employment on every tanker in sea-going operation by five percent of the total employed in September, 1933. A pool is to be formed for distribution of funds to the owners of tonnage laid up for lack of charter.

▼

# MEXICO

## Government Control

NO FURTHER important official announcements regarding the formation of the government controlled oil producing, refining and marketing company in Mexico have been made except for reference to the project in President Rodriguez' New Year's message to the Mexican people. The present status of the project is that the Senate has empowered the president to take such steps as he deems necessary for the formation of a purely national company to assure a supply of petroleum and products for national defense, to keep the price to the consumer within reason by competition with privately controlled companies, and to serve as a training ground in which a class of Mexican petroleum technologists can be developed. These aims taken in connection with the left wing tendencies of the present Mexican government have served to strengthen rumors from usually well informed sources that the administration intends eventually to establish a government controlled monopoly in the petroleum industry in Mexico.

President Rodriguez, in his annual New Year's Day message to the Mexican people, announced that legislation affecting petroleum will receive preferential treatment by the administration and that steps were being taken to set up the semi-official oil company referred to last month. During 1934 special laws applicable to the exploitation of government oil reserves will be enacted and a survey will be made of the area and oil bearing capacity of such zones, in an effort to classify them. This work will be carried out by the Ministry of National Economy. Eventually all government oil reserves will be divided into tracts that are immediately exploitable and into fixed reserves.

Meanwhile rumors to the effect that British and French capital was being considered as backing for the government controlled oil company have gained strength. Reports of this sort have appeared in New York, Paris and Berlin newspapers. No official comment on these rumors has been made by the administration, but official circles discount reports that Rothschild interests and other capitalists have been approached by the Mexican government. It is pointed out unofficially that the principal aim in establishing such a semi-official company would be to attain a measure of independence from foreign control of producing, refining and distributing facilities in Mexico. The company will be kept purely Mexican, financed by Mexican capital and training Mexican engineers.

The principal point of interest in this plan to oil men outside of Mexico is the possibility that the semi-official company would compete with the privately owned companies operating in Mexico. Possibly with preferential treatment such an agency could hold petroleum prices to an unremunerative level in Mexico. Accompanying the announcement last month were rumors from reliable sources that the formation of this company would be simply the first step in the establishment of a Mexican oil monopoly, controlled by the government.

If this were in fact the intention of the administration, a possibly embarrassing obligation has been removed with the announcement of the Ministry of Finance that the government's loans from oil companies operating in Mexico have been paid back to the extent of 2,596,502.15 pesos to the Standard Oil Company of California and 2,089,997.09 pesos to various other oil companies.

## Uncancellable Concession

ON THE OTHER hand announcement has been made of the granting of an uncancellable confirmatory concession of 760 hectares near Sayula, Vera Cruz to the Mexican Eagle Oil Company (Royal Dutch Shell). Officials of Mexican Eagle state that they have a well already drilling in this zone and consider indications promising. A considerable amount of money may be invested in testing this field as the company plans to drill not less than 20 wells for that purpose.

Solicitation for an exploitation and exploration concession to 349,157 hectares on the border of Tobasco and Chiapas States made by Oscar F. Vazquez is under consideration by the Ministry of National Economy at present.

The government, however, rejected the proposition of the German Nitag company to exploit a portion of the federal reserves in Papantola Zone, Vera Cruz state. The proximity of this area to Mexico City and its advantage in supplying that market make it undesirable from the government point of view to permit the fields to be exploited and the crude exported to Germany to supply the refineries there. Nitag, however, may be expected to attempt to arrange a similar deal with private companies holding oil concessions.

Mexico must use only nationally produced petroleum and products, states Engineer Trinidad Paredes, director of Administrative Control of National Petroleum (present federal government agency) in a review of the petroleum industry of which he is the author. This condition must be brought about by suitable legislation, says the director of the Administrative Control who seems to be in entire sympathy with any plans that the government may be perfecting to establish a monopoly.

## Minimum Wages

KEEN interest is being displayed by oil executives in Vera Cruz and Tamaulipas concerning the outcome of the injunction suit filed in Tampico court to restrain the state from enforcing its minimum daily wage scale of three pesos (approximately 90 cents U.S.) for petroleum workers. If the Mexican Eagle which filed the suit is successful in its action other industrialists in Vera Cruz and Tamaulipas states will inaugurate similar proceedings, as Vera Cruz established a three pesos minimum to eliminate friction that was being caused by workers who received but 2.50 pesos minimum in Vera Cruz while similar workers across the border in Tampico received a minimum of three pesos per day. Petitions from mining and petroleum companies have been handed to the government requesting a lowering of the minimum on the grounds that these rates swell payrolls out of proportion to present-day operating costs.

Huasteca Petroleum has brought the first action against the federal government concerning higher minimum wage scales. This action has taken the form of a suit to obtain an injunction to restrain the federal government from enforcing increased pay measures in Huasteca's Tampico, Tuxpam, Vera Cruz and Villa Cuauhtemoc divisions. The suit has been filed in a Mexico City federal district court.

The Federal Board of Conciliation and Arbitration has granted permission for the formation of a national federation of unions of petroleum industry workers that was formed by these workers' representatives at a conference in Puerto Mexico.

## Exploration

PERMITS have been granted to Consolidated Oil Company to drill near Cantu in Nuevo Leon near the American border; to Penn Mex Fuel to drill at Palo Blanco, Vera Cruz; and to the Administrative Control to drill in federal oil reserves on the left bank of

the Uzpacapa River, Vera Cruz. The Administrative Control has also applied for permission to drill on the right bank of this river in federal reserves.

The Mexican Eagle is drilling its forty-seventh well in the El Burro zone, Puerto Mexico, Vera Cruz. This company has also assigned three engineers, Goldsmith, Wright and Barker to investigate oil indications near Misantla, Vera Cruz. Reports have stated that indications in this area are promising.

A 200 bbl. per day producer in what was considered the exhausted Cacalilao field in Vera Cruz, completed by the Mexican Empire Pipeline Company at 1,500 ft. amidst abandoned wells, indicates that the field is not yet entirely worked out.

DOUGLAS GRAHAME

▼

# FINANCE

APPARENTLY interpreting favorably the Administration's moves in the direction of a closer control over the dollar preparatory to possible legal stabilization later in the year at a new gold parity, the market about the middle of January broke decisively out of its previous rather indifferent and apathetic trend. This action presented a sharp contrast with the temper of the market in its advance of last spring and early summer, for during this former period inflation psychology seemed to be quite dominant and any suggestion of putting the brakes on the inflation program, particularly with respect to the valuation of the dollar, was immediately unsettling to the market. It is, of course, without question that the projected borrowing by the federal government of close to $6,000,000,000 of new money, in addition to approximately $4,000,000,000 for refinancing purposes, carries definite inflationary implications, but these apply essentially to the credit structure rather than to the gold and exchange values of the dollar. The strength in stocks was accompanied by an even more notable advance in the bond market, which included the higher grade issues as well as secondary and speculative bonds.

During the early part of the month the oil shares were somewhat hesitant due to the difficulties encountered in attempting to eliminate completely illegal oil production in Texas and due to price cutting in the retail gasoline field in the eastern portion of the country. These factors, however, are on the whole considered to be of temporary character in the progress of the industry toward a sounder and more profitable basis of operations and there was immediately a much stronger tone in the oil share group following the approval by Secretary of the Interior Ickes of the modified purchase and marketing agreement which had previously been submitted by a group representing the major portion of the industry as a means for improving and controlling the flow of gasoline and lubricating oil from refiners to retail distribution. The 1933 oil company reports are not likely to make a favorable comparison with the 1932 statements because of the exceedingly unfavorable conditions which prevailed in the first half of last year, but the current status of the industry is such that reports for the first and second quarters of this year should substantially exceed the corresponding figures for 1933.

IT IS ESTIMATED that net profit of Union Oil Company of California for 1933 was approximately $2,000,000 which would be about $2,300,000 less than common dividend requirements at the current rate of $1 per annum. Such earnings would be equivalent to about 46 cents per share of outstanding capital stock and would compare with 1932 net of $3,200,000, or 73 cents per share. The company has maintained a strong cash position, this item amounting to about $14,700,000 as of September 30. This factor in conjunction with the improved outlook for 1934 suggests the probability that the present dividend rate will be continued, thus affording the comparatively satisfactory yield of five percent on current prices for the stock around 20. Union Oil expects to be able to add to its profits in 1934 through its new lubricating plant which is now nearing completion at Oleum, California. This plant will manufacture a high grade lubricating oil to sell in competition with the widely advertised and widely accepted Pennsylvania grade oils.

THE 1933 ANNUAL report of Seaboard Oil Company of Delaware is expected to show net earnings after all charges of approximately $1,240,000, equivalent to about $1 per share on the outstanding no par capital stock. This would indicate substantial coverage of the current 60 cent per annum dividend rate and would compare with a net profit of $858,000 or 71 cents per share, reported after all charges for 1932.

The company has improved its working capital position over the past year, having increased net quick assets from $2,103,000 to approximately $2,500,000 at the year end. It is understood that the major portion of the net quick assets is in cash, as compared with cash at the close of 1932 of $1,934,000.

## New York Stock Prices

| 1933 High | 1933 Low | Current Div. $ per Annum | Stock (Par Value $) | Dec. 26, 1933—Jan. 20, 1934. Sales (Shares) | First | High | Low | Last | Net Change [1] |
|---|---|---|---|---|---|---|---|---|---|
| 47⅞ | 18½ | 2.00 | Amerada (No) | 16,900 | 41⅛ | 47 | 39½ | 46 | + 3½ |
| 32½ | 12⅜ | 1.00 | Atlantic Refining (25) | 79,500 | 29 | 31⅞ | 28⅛ | 31⅞ | + 3¼ |
| 11 | 3 | .... | Barnsdall (5) | 75,500 | 7⅛ | 9½ | 7⅝ | 9⅜ | + 1½ |
| 4 | ¼ | .... | Colon Oil (No) | 8,000 | 1⅛ | 2¼ | 1 | 2¼ | + 1⅛ |
| 15¾ | 5 | .... | Consol Oil (No) | 265,200 | 10⅝ | 11⅝ | 9¾ | 11½ | + ⅞ |
| 19⅝ | 4⅞ | .... | Continental Oil (5) | 129,000 | 17¼ | 18⅞ | 16½ | 18¾ | + 1⅛ |
| 12 | 2¼ | .... | Creole Petroleum (5) | 101,500 | 10⅜ | 11⅞ | 9½ | 11¾ | + 1⅜ |
| 62 | 24 | .... | Gulf Oil Corp. (25) | 46,200 | 54 | 71⅞ | 53⅜ | 71½ | +16½ |
| 35½ | 33 | ** | Humble Oil & Ref. (No) | 57,700 | 33¾ | 39 | 33¼ | 38⅞ | + 5⅛ |
| 15⅞ | 6½ | 0.50 | Imperial Oil, Ltd. (No) | 50,200 | 12¾ | 14¼ | 12⅝ | 13¼ | + ½ |
| 23½ | 8⅞ | §1.12 | International Petr. (No) | 78,600 | 19⅝ | 21¾ | 18⅞ | 21⅜ | + 1⅞ |
| 16 | 3¾ | .... | Mid-Continent (No) | 34,100 | 11½ | 13⅛ | 10½ | 13 | + 1⅝ |
| 11⅝ | 4¾ | .... | Ohio Oil (No) | 94,400 | 13⅛ | 14⅝ | 12½ | 14½ | + 1¼ |
| 18¾ | 4¾ | 1.00 | Phillips Petr. (No) | 121,900 | 15⅝ | 16⅞ | 14⅝ | 16⅞ | + 1⅜ |
| 15⅜ | 2½ | .... | Pure Oil (25) | 70,400 | 10¾ | 12⅜ | 10⅛ | 12⅛ | + 1¼ |
| 39¾ | 17⅝ | †6% | Royal Dutch N. Y. (13⅓) | 5,200 | 36⅜ | 38 | 35⅞ | 37½ | + 1⅝ |
| 43⅜ | 15 | ‡0.60 | Seaboard Oil (No) | 47,100 | 28½ | 31⅝ | 25⅜ | 31⅜ | + 1⅞ |
| 11⅝ | 4 | .... | Shell Union (No) | 69,400 | 8 | 9⅜ | 7¼ | 9¼ | + 1¼ |
| 12⅜ | 4⅞ | 0.25 | Simms Petr. (10) | 8,200 | 9¼ | 10½ | 9 | 10 | + ¾ |
| 9⅞ | 3 | .... | Skelly Oil (25) | 6,000 | 8¾ | 9⅛ | 7⅞ | 8⅜ | + ⅛ |
| 17 | 6 | 1.00 | Socony-Vacuum (25) | 323,000 | 16¼ | 17 | 15⅛ | 16⅞ | + ⅞ |
| 45 | 19½ | 1.00 | Standard Oil of Calif. (No) | 145,700 | 39⅝ | 42⅜ | 37⅛ | 41⅛ | + 1¼ |
| 34 | 17 | 1.00 | Standard Oil, Ind. (25) | 93,700 | 32½ | 32⅝ | 31½ | 32¼ | − ¼ |
| 39⅞ | 12¾ | 2.00 | Standard Oil, Kansas (25) | 1,000 | 38 | 38 | 36 | 36¼ | − 1½ |
| 19¼ | 8⅜ | 1.00 | Standard Oil, Ky. (10) | 18,900 | 15 | 16⅞ | 14 | 16⅜ | + 1⅞ |
| 47½ | 22¾ | 1.00 | Standard Oil, N. J. (25) | 160,800 | 45⅞ | 46¾ | 44¼ | 46⅛ | + ⅝ |
| 59 | 35 | *1.00 | Sun Oil (No) | 2,600 | 52 | 56 | 51½ | 56 | + 4½ |
| 30⅛ | 10¾ | 1.00 | Texas Corp. (25) | 105,000 | 24⅞ | 26⅞ | 22¾ | 26½ | + 2⅛ |
| 11¾ | 3⅛ | .... | Tide Water Assoc. (No) | 122,200 | 8⅝ | 10¼ | 7¾ | 10⅛ | + 1⅛ |
| 23⅜ | 8½ | 1.00 | Union Oil of Calif. (25) | 32,100 | 18½ | 19⅝ | 18⅛ | 19½ | + ½ |
| 1½ | ⅛ | .... | Venezuelan Petr. (5) | 6,300 | 9/16 | ¾ | ½ | ⅝ | .... |

[1] Since close of last month's table. † Paid for 1932—no regular rate.
‡ Also 10c extra last year. ** No dividend yet declared on new stock.
* Also paid 9% in stock for 1933. § Payable in Canadian funds.

The improved prices for crude oil in California, East Texas and Mexico have been the principal cause for the increase in earnings; and in addition deliveries of gas under the contract with Pacific Gas and Electric Company were increased and the price advanced.

TAKING THE first dividend action since the close of 1932, the directors of Simms Petroleum Company declared a dividend of 25 cents per share payable February 1 to stock of record January 17. A dividend of similar amount was paid in January of 1933. The president of the company stated that it was the purpose of the directors to make further dividend declarations from time to time if and when the status and prospects of the company may warrant such action. He also stated that for the last half of 1933 the company's net income was approximately $365,000, including approximately $210,000 of book profits realized on usual year end adjustments of crude oil inventory to market value. Thus, the net income for this period before the inventory profit was approximately $155,000, or 34 cents a share. This profit would not be sufficient, however, to wipe out the net loss of the first six months, which amounted to 74 cents per share. The figures are of course subject to adjustments incident to the closing out of accounts for the year.

PAN AMERICAN SOUTHERN CORPORATION, 96 percent of whose capital stock is owned by Standard Oil Company (Indiana), paid a dividend of $3 a share on January 30 to stock of record January 22. The dividend represents a distribution to stockholders of excess working funds and was paid out of capital surplus. The company was organized in March, 1933, in connection with the consolidation of the American Oil Company with Pan American Petroleum and Transport Company (the latter a subsidiary of the Indiana Standard). At that time the marketing properties of Pan American Petroleum and Transport in Alabama, Louisiana, Mississippi and Tennessee, as well as cash and other miscellaneous assets of Pan American were placed in the new company and the new stock was distributed on a share for share basis to the stockholders of Pan American Petroleum and Transport.

AFTER HAVING sustained a rather substantial deficit in the first half year, Pure Oil Company is understood to have made steady improvement to the point of offsetting the first half deficit by the end of November. Thus the final report for 1933 will in effect represent the net profit for December after year-end adjustments. Annual cumulative preferred dividend requirements of the company are about $2,000,000, and the amount now in arrears is almost equal to that figure, since no dividends have been paid since April 1, when only a fourth of the regular disbursement was made. It is understood that due to the improved showing of the final six months, the company has been able to liquidate a small part of its bank indebtedness, which a year previous stood at $5,291,000, and that the year-end balance sheet will show a somewhat smaller cash item than at the close of 1932 but a moderate improvement in the current position as a whole. It is noteworthy that during the year the company retired approximately $2,000,000 of its bonds through open market purchases at a discount. The desire of the management to strengthen financial position by paying off bank loans and perhaps further increasing cash is likely to result in some postponement of dividend reinstatement on the preferred stocks.

C. C. BAILEY

## London: January

CONDITIONS in the United States remain the predominant factor in the oil share market. The very qualified success of American efforts to bring output under complete control, and the continuance of production in excess of allowables, have been severe disappointments to the British investing public, as well as to professional dealers. Possibilities of further fluctuations in the dollar exchange, and doubts as to the final level of its stabilization, have been additional causes of uncertainty affecting a wide range of British oil companies. Uncertainty is invariably a discouragement to stock market activity, and the turnover in oil shares has therefore been extremely small. Prices achieved a small improvement early in January, largely on Continental support following the publication of messages stating that petrol prices had been increased in Holland, but a setback was caused by reports of a cut in gasoline prices by important refining interests in the United States. Although prices rose on balance up to the middle of January, improvement reflected the general optimism prevailing on the London Stock Exchange rather than satisfaction with the current oil situation. There is, nevertheless, an underlying firmness in the share price structure, due to a relatively small floating supply of shares and to a persistent belief in many quarters that the United States industry, having travelled so far on the road to control of production, will finally emerge from its difficulties. But sustained activity is hardly likely to return to the share market until more definite evidence is available that American efforts are going to be successful.

INCREASED average prices for motor spirit in Britain during the year to September 30, 1933, provided Apex (Trinidad) Oilfields with a larger income. Production during that period was slightly below the 1931–32 level, but sales to Trinidad Leaseholds under contract, including oil used on the property, showed a small increase to 3,797,108 bbl. Gross oil profit was £365,424, or 13s. 6d. per ton, against £332,457 or 12s. 3d. per ton. A larger sum was written off wells, but net profit was £13,584 higher at £227,027, and payment of a final dividend of 22½ percent brought the total for the year up to 35 percent. This return, which represents an increase of 10 percent on the preceding twelve months and is the highest distribution made since 1928–29, must be considered an excellent performance. The balance sheet figures show that the company's strong financial position has been maintained, with a surplus of £231,801 of liquid assets. No further transfer to reserve was made from profits for the past year, and Mr. Walter Maclachlan, the chairman, told shareholders at the annual meeting that the general reserve fund of £220,000, with about £110,000 carried forward at the credit of profit and loss account, were considered ample for all known requirements, and that in the absence of abnormal developments it would be possible in future to distribute profits without material reserve deductions. An estimate of production by the general manager suggests a gradual decline in output from now on from the company's present proved area, with a probable period of nineteen years for which production may be expected. The chairman, however, emphasized the uncertainty of calculations of this kind, adding that the board believed that ultimate results from the property would certainly not be less favorable than those indicated by the estimate.

### London Stock Exchange Prices

| 1933 High | 1933 Low | Last Year's Div. % per Ann. | Share | December 11 to January 13. First | High | Low | Last | Change |
|---|---|---|---|---|---|---|---|---|
| 2 7/32 | 1 5/32 | 3½ | Anglo-Ecuadorian | 2 3/32 | 2 3/32 | 1 31/32 | 1 31/32 | – 1/32 |
| 1 13/16 | 1 7/16 | 10 | Anglo-Egyptian "B" | 1 17/32 | 1 13/16 | 1 17/32 | 1 23/32 | + 1/4 |
| 2 19/32 | 1¾ | 7½ | Anglo-Persian | 2 13/32 | 2 13/32 | 2 9/32 | 2⅜ | + 1/32 |
| 1½ | 2 9/32 | 35 | Apex Trinidad (5s.) | 1 15/32 | 1 15/32 | 1 7/16 | 1 15/32 | .... |
| 2 3/32 | 1 1/32 | .... | Attock | 9/16 | 1 9/32 | 9/16 | 1 9/32 | + 1/32 |
| 5/8 | 3/16 | 7½ | Brit. Borneo (6s.) | 1 3/32 | 1 7/32 | 1 5/32 | 1/2 | + 1/32 |
| ¼ | 3/16 | .... | Brit. Burmah (8s.) | 3/16 | 3/16 | 3/16 | 3/16 | .... |
| 5/16 | 5/32 | .... | Brit. Controlled ($5) | ¼ | ¼ | ¼ | ¼ | .... |
| ¾ | 1 3/32 | .... | Brit. Controlled Pfd. ($5) | 5/8 | 5/8 | 1 9/32 | 1 9/32 | – 1/32 |
| 4 17/32 | 2¾ | 20 | Burmah | 4¼ | 4 5/16 | 4 3/16 | 4 3/16 | + 3/16 |
| 1/2 | ¼ | .... | Canadian Eagle (No par) | 3/8 | 1 5/32 | 3/8 | 1 5/32 | + 1/32 |
| 5/16 | 3/32 | .... | Kern River (10s.) | 5/32 | 7/32 | 5/32 | 7/32 | + 1/16 |
| 2 19/32 | 1½ | 12½ | Lobitos | 2 5/32 | 2 9/32 | 2 5/32 | 2¼† | + 3/32 |
| 4 5/16 | 3 7/16 | 14‖ | London & Thames Haven | 4 | 4¼ | 3 15/16 | 4 3/16 | + 3/16 |
| 5/8 | 5/16 | .... | Mexican Eagle ($4 Mex.) | 1 7/32 | 5/16 | 1/2 | 5/16 | + 1/32 |
| 1 1/16 | 3/4 | 2½ | Phoenix | 1 9/32 | 5/8 | 1 9/32 | 1 9/32 | .... |
| 23 3/4 | 15 5/8 | 6 | Royal Dutch (fl. 100) | 21 11/16 | 22 1/16 | 21 1/4 | 21 11/16 | .... |
| 2⅜ | 1 29/32 | 7½* | Shell Transport | 2 17/32 | 2 19/32 | 2 15/32 | 2 29/32 | + 1/32 |
| 11¾ | 5⅞ | .... | Shell Union (No par) | 8¼ | 8⅝ | 7¾ | 8⅝ | + ⅜ |
| 2 1/32 | 1 1/32 | 6 | Steaua Romana | 1 9/32 | 1 9/32 | 9/16† | 1 9/32† | .... |
| 3 23/32 | 2 9/32 | 15 | Trinidad Leasehold | 3 13/32 | 3 17/32 | 3⅜ | 3 15/32 | + 1/16 |
| 5/16 | 3/16 | .... | Untd. Brit. of Trinidad (6s. 8d.). | 9/32 | 5/16 | 9/32 | 5/16 | + 1/32 |
| 2 5/16 | 1 11/32 | 12½ | Venezuelan Oil Concessions | 1 9/16 | 1 3/4 | 1 9/16 | 1 11/16 | + 1/8 |

Nominal value of shares £1 unless otherwise stated by bracketed figures.
* Denotes Tax-free dividend. † Denotes "Ex-dividend" price.
‖ 10 percent dividend tax free plus 4 percent bonus less tax.

EXPRESSING the view that the Apex Company will have a satisfactory year's trading during the current financial period, Mr. Maclachlan stated his confidence in the oil position in general, foreshadowed an increased demand owing to the improvement in British trade, and referred to the probability of a rise in British petrol prices in the early future. The market, however, did not interpret this as a forecast of an immediate advance in quotations for motor spirit. There is, of course, already evidence that trade recovery in Great Britain is increasing the demand for petroleum products. The share market, nevertheless, seems to share the view of most oil circles that further upward adjustment of British petrol prices may well be delayed until the United States position has been made thoroughly water-tight, although disturbance to the market through fluctuations in the value of the dollar should be eliminated for the moment by the stabilization steps taken by Mr. Roosevelt.

ANNOUNCEMENT by Lobitos Oilfields of an interim dividend of 5 percent for 1933, the same as for 1932, accorded with the expectations of the market. In view of the non-committal speech by the chairman at the last annual meeting, the subsequent decline in the sterling value of the United States dollar, and the fact that the company is financing construction of its new refinery at Ellesmere Port from its own resources, there was certainly no reason to look for a higher payment. The distribution for the whole of 1932 on the company's £1,000,000 capital was 12½ percent, a final payment of 7½ percent being made in June last.

IN COMMON with other British oil company directorates, the board of Anglo-Ecuadorian Oilfields, the Lobitos offshoot, are faced with some difficult exchange problems. Shareholders were reminded at the recent annual meeting of the Ecuadorian exchange legislation, which compels the company to deliver to the Central Bank foreign exchange representing a certain percentage of every oil cargo shipped, and to receive in return a credit in sucres at the controlled rate. The local currency thus received, added to the product of the company's sales in Ecuador, amounts to more than the sum required for local expenditure, so that the management is faced with a gradually increasing accumulation of sucres which it may be impossible for a considerable time to convert into sterling at the rate originally received by the company. The position thus created may become serious during the current financial year, and the directors therefore took the wise course in presenting their accounts of increasing the sterling balance carried forward to the maximum extent compatible with maintaining the dividend at 3½ percent.

While the Ecuadorian exchange position is threatening to become troublesome, fluctuations in the value of United States currency have been affecting the company's trading results, since the price of the crude oil shipped is controlled by American quotations in dollars while profits are expressed in sterling. The greater steadiness which may now be expected in the dollar should help the company in this respect, but too much cannot be anticipated during the current financial year. Accounts are made up to June 30, so that over half the year's trading has already been subject to dollar exchange fluctuations.

ALEC H. DAY

▼

### L. B. Nutting Dead

LOUIS BLACKSTONE NUTTING, President of the Foster Wheeler Corporation, died at his home in New York on January 12, 1934. He was 63 years old. Mr. Nutting had been ill for several weeks and survived his wife, Fannie C. H. Nutting, by only three months, her death having occurred October 10, 1933.

▼


FIRTH-BROWN

HOLLOW FORGED VESSELS

Typical of their unique experience in the making of Hollow Forgings and Special Alloy Steels, this chamber is the Empire's largest hollow forging (measuring 50 ft. in length, 6 ft. internal diameter and weighing 70 tons) made by

THOS. FIRTH & JOHN BROWN, LTD. + ATLAS AND NORFOLK WKS + SHEFFIELD